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Authentic Leadership as an Antithesis to Teacher Burnout

Carmen Markowski

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Authentic Leadership as an Antithesis to Teacher Burnout

by

Carmen Markowski

A dissertation to be submitted in partial fulfillment
Of the requirements for the degree of

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In
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Authentic Leadership as an Antithesis to Teacher Burnout

by

Carmen B. Markowski

This dissertation is completed as a partial requirement for the Doctor of Education (EdD) degree at the University of Portland in Portland, Oregon.

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Abstract

The purpose of this quantitative correlational study was to develop a new framework for the burnout equation and to examine the relationships which exist among three key factors; teacher burnout, psychological well-being at work, and authentic leadership. Participants in the study included 335 Canadian teachers, 299 of which were from the province of Alberta. The majority of the participants (81%) were classroom teachers, while the remaining participants held specialized positions like counsellor, learning coach, or administrator. Participants filled out a survey containing three instruments: the Maslach Burnout Inventory (MBI), the Basic Psychological Needs Satisfaction at Work (BPNS-W) scale, and the Authentic Leadership Questionnaire (ALQ). The survey ended with an optional qualitative question, “Is there anything you would like to add about teacher burnout and your work experience?”

An independent samples *t*-test revealed the factors of burnout, authentic leadership, and basic psychological needs were significantly different between two subgroups: *those who were exhausted* and *those who were not*. Competence stood out with $t(333) = 7.89, p < .01$ which has an effect size of 0.40 and a Cohen’s *d* of 0.87. Since each quantitative variable was significantly different between the two subgroups, this suggested that basic psychological needs and authentic leadership were important pieces of the burnout equation. The findings also suggest the relationship between burnout and authentic leadership was mediated by the psychological needs. Coding of

the answers from the qualitative question pointed toward *inclusion* as the current job demand which is burning out teachers.

This study can serve as guidance to school divisions regarding the hiring and training of leaders in the area of authentic leadership. This research also offers critical direction for government policy in terms of funding for education. It is imperative that funding must be in place to support teachers in their work with special needs students.

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Poem

Burnout

*I used to care.
but I don't care much any more.
I used to care
That children had to sit, still and be quiet
And read pages 9 to 17
And answer the odd-numbered questions at the end of the chapter;
But I don't care much any more.*

*I used to care.
That finishing the assignment is more important than learning the skill.
And getting the right answer is more important than understanding, and
apologizing is more important than being penitent;
But I don't care much any more.*

*I used to wake up in the night
And think about ways to teach children
To set goals and work toward them,
To make decisions and live with the results,
To work together.
But there were those who felt threatened
And those who felt frightened
Because my classroom was different.
Parents did not understand.
They listened to the evil insinuations and the confidential criticisms.
Their protests overwhelmed my sand-based supports.
I used to care,
But I don't care much any more.*

*Now I say
Sit down
Be quiet
Read pages 9 to 17
No exciting ideas disturb my sleep.
I haven't had a complaint in over a year.
Nobody seems to care
That I don't care much any more.*

-Anonymous

Poem cited in Alshuler (1980). p. 17

Chapter 1: Introduction

Occupational burnout is a major concern across human service professions (Maslach & Leiter, 2016). Burnout is especially experienced by workers who interact face-to-face with people all day long, such as nurses, social workers, teachers, police, and even poverty lawyers. Burnout leads to devastating results for the individual and the organization (Maslach & Leiter, 1997; Yong & Yue, 2007). For the individual, physical complaints like headaches, stomach issues, high blood pressure, tight muscles, and fatigue can be the result of job stress and burnout (Maslach & Leiter, 1997). Other individual signs of burnout include anger, anxiety, depression, restlessness, dejection, indifference, boredom, self-reproach, tension, disgust with life, and other negative reactions (Yong & Yue, 2007). For the organization, workers who are burned out withdraw from their jobs, both psychologically and physically (Maslach & Leiter, 1997) and cost the organization through decreased job performance, lower worker retention, reduced on-the-job commitment, and heightened health care costs (Halbesleben, 2006). Burned out workers invest less time and energy in their work, do only what is necessary, and are absent more often (Maslach & Leiter, 1997). Overall productivity, creativity, and dedication diminish when individuals of a workforce suffer from occupational burnout (Halbesleben & Buckley, 2004).

Burnout Syndrome

The term, burnout, was first used by Freudenberg (1974) who described burnout as “to fail, wear out or become exhausted by making excessive demands on energy, strength, and resources” (p. 159). Freudenberg (1974) was a psychologist who noticed the signs and symptoms of burnout while working in a free clinic, and

recognized the experience of burnout in himself and his colleagues. Other pioneers in the area of burnout include Pines and Maslach (1978), who studied the attributes of staff burnout in mental health settings. Their initial samples included more than 200 social welfare workers, psychiatric nurses, poverty lawyers, prison personnel, and child-care workers. They defined burnout as a “syndrome of physical and emotional exhaustion, which involved the development of a negative self-concept, negative job attitudes, and loss of concern for clients” (p. 234). Research advanced on the phenomenon and extended definitions of the syndrome were constructed. Maslach and Jackson (1981) further defined burnout as a syndrome composed of three specific dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. *Emotional exhaustion* is the depletion of emotional resources to the point where workers can no longer give of themselves at a psychological level (Maslach & Jackson, 1981). *Depersonalization* is the development of negative, cynical attitudes towards one’s clients, and *reduced personal accomplishment* describes the tendency for workers to undervalue their work with others (Maslach & Jackson, 1981). This research team developed the Maslach Burnout Inventory (MBI), which is a widely used instrument for measuring the three dimensions of burnout. Since its conception in the early 80s, the MBI has been developed into different versions for use in a wide variety of occupations. These different versions of MBI have been used in a multitude of studies on burnout from human services occupations to production workers.

Occupational burnout has been studied in a variety of fields. One particular area has been in education. Teachers are conducive to burnout due to their personal

daily contact with students, parents, and colleagues. Teacher stress and burnout is a concern in many countries around the world (Maslach & Leiter, 2016) and has been studied for more than two decades. See Table 1 for an overview of different studies on teacher burnout from various countries starting in 1988.

Table 1

Studies on Teacher Burnout Across the World Ordered by Year

Authors	Participants
Brissie et al. (1988)	1,213 teachers from a mid-southern state, United States
Friedman and Farber (1992)	641 teachers from Israel
Sarros and Sarros (1992)	491 teachers from Australia
Villa and Calvete (2001)	378 teachers from Spain
Pines (2002)	614 teachers from the United States and 97 teachers from Israel
Fernet et al. (2012)	806 teachers from Quebec, Canada
Pas et al. (2012)	600 teachers from Maryland, U.S.A.
Droogenbroeck et al. (2014)	1878 teachers from Belgium
Malinen and Savolainen (2016)	642 teachers from Finland
Skaalvik and Skaalvik (2017)	1145 teachers from Norway
Zhu et al. (2018)	1892 teachers from China

Several researchers note that burnout has negative consequences for both teachers and students (Pas et al., 2012; Skaalvik & Skaalvik, 2017; Villa & Calvete, 2001; Yong & Yue, 2007). Burned out teachers do not prepare their lessons conscientiously, behave rigidly toward their students, lack versatility, lose interest in their students, display mental and physical weariness, lack enthusiasm for their work, and feel low self-respect (Yong & Yue, 2007). These consequences directly affect teacher-student relations and prevent students from making overall progress (Farber, 1991). Teacher burnout is also taxing on the school system as absenteeism increases and teacher retention decreases. The burnout of teachers has far-reaching

consequences which affect the school system, the teacher, and most importantly the students.

Teacher Well-Being

In order to understand the different facets of teacher burnout, it is important to consider its positive opposite: teacher well-being. Significant research has been conducted in the area of teacher well-being. Van Horn, Taris, Schaufeli, and Schreurs (2004) examined how occupational well-being was experienced in Dutch schools, where high levels of stress and burnout were the norm. Based on previous health models from Ryff (1989), Warr (1987, 1994), and Maslach's (1993) paradigm on burnout, van Horn and her colleagues (2004) developed a framework which identified five dimensions of well-being for teachers. These dimensions include *affective*, *social*, *professional*, *cognitive*, and *psychosomatic* well-being (see Table 2).

Table 2

Definitions of the Five Dimensions from the Occupational Well-Being Model

Terms	Definitions
Affective well-being	Includes emotional exhaustion, job satisfaction, and organizational commitment.
Professional well-being	Refers to autonomy, aspiration, and professional competence.
Social well-being	Indifferent and negative attitude towards individuals at work (depersonalization) and social functionality at work.
Cognitive well-being	Employees' ability to take up new information and concentrate on their work (also known as cognitive weariness).
Psychosomatic well-being	The presence or absence of psychosomatic complaints, such as headaches and back pain.

Note. van Horn et al., 2004, p. 367, 369.

Their study confirmed support for this five-dimensional model and established occupational well-being as a phenomenon which exhibits itself in various ways.

Klusmann, Kunter, Trautwein, Lüdtke, and Baumert (2008) expanded on this research in teacher well-being with their study on teachers' occupational well-being and its relationship with quality instruction. They found that teachers' self-regulatory styles impacted the academic success of students in the classroom. Klusmann and her associates (2008) combine Maslach's (1993) dimensions of teacher burnout and job satisfaction to define teachers' occupational well-being in their model. The fact that both of these studies define teacher well-being using aspects of Maslach's burnout

syndrome, points to a discernable connection between teacher well-being and teacher burnout.

Authentic Leadership

More recently, there has been research linking employee well-being to a new term, *authentic leadership*. Authentic leadership (AL) is a more recent construct developed over the past 20 years. The concept of AL began to draw attention when Harvard professor Bill George (2003) published a book on authentic leadership. This increased awareness in the area of authenticity and leadership became the inspiration for a summit hosted by the Gallup Leadership Institute at the University of Nebraska-Lincoln in 2004 on Authentic Leadership Development. The aim of the summit was to engage academics and researchers in a dialogue with leaders from various disciplines regarding authentic leadership. After the summit, several research teams published articles advancing the development of AL (Avolio & Gardner, 2005; Ilies et al., 2005; Michie & Gooty, 2005; Shamir & Eilam-Shamir, 2005).

Authentic leadership is different from other leadership styles in that it is considered a generic style and is described as a “root construct” (Avolio et al., 2004). Root construct is a term to help characterize AL as the basis for other forms of positive leadership (Avolio & Gardner, 2005). “Authentic leadership can incorporate transformational, charismatic, servant, spiritual or other forms of positive leadership” (Avolio & Gardner, 2005, p. 329).

There is growing evidence regarding the relationship between AL and employee well-being. Leroy and associates (2015) conducted a study which looked at the influence of authentic leadership on follower work motivation. This study used

self-determination theory as a guiding framework and looked at the three basic psychological needs outlined in the theory to establish whether authentic leadership helps satisfy these basic needs in their followers (Leroy et al., 2015). Leroy and his team (2015) hypothesized a positive relationship exists between authentic leadership and follower basic need satisfaction, and this relationship fosters work motivation and work role performance in followers. The three basic psychological needs examined were *competence*, *relatedness*, and *autonomy*. *Competence* describes our need to feel skilled with work tasks (Leroy et al., 2015), whereas *relatedness* is defined as the sense of belongingness and connectedness to other people or groups (Ryan & Deci, 2000b). *Autonomy* is a term to describe the freedom an individual feels in regards to their self-initiated behaviors (Ryan & Deci, 2000b). The study concluded that basic needs satisfaction mediated the interconnectedness of authentic leadership and follower work production. The current study looks at the role authentic leadership and the satisfaction of basic psychological needs play in the teacher burnout process.

Purpose of the Study

There is a common belief that individuals who experience burnout are somehow flawed or weak, but research on burnout has revealed that the problem is not due to the individual themselves, but instead, due to the social environment in which the person works (Maslach & Leiter, 1997). Even the *best* teachers are vulnerable to burnout. Although there is past research which examines burnout and various aspects of teacher well-being (Skaalvik & Skaalvik, 2009; Vîrgă et al. 2019; Zhu et al. 2018), thus far, no clear solutions have been found. A framework on teacher burnout is needed to encapsulate the key factors involved in the burnout syndrome so

countermeasures can be found. The current study aims to fill this gap in the research.

There are two overarching research questions for the study:

1. What are the relationships between authentic leadership, psychological well-being at work, and teacher burnout?
2. What dimensions or factors in the burnout equation are most predictive?

These questions guide the overall study and examine the relationships of key factors in order to understand whether authentic leadership is an opposing force against the burnout syndrome.

Figure 1 is a building block for a conceptual framework on teacher burnout.

This figure shows known and unknown correlations between teacher burnout and key factors associated with burnout.

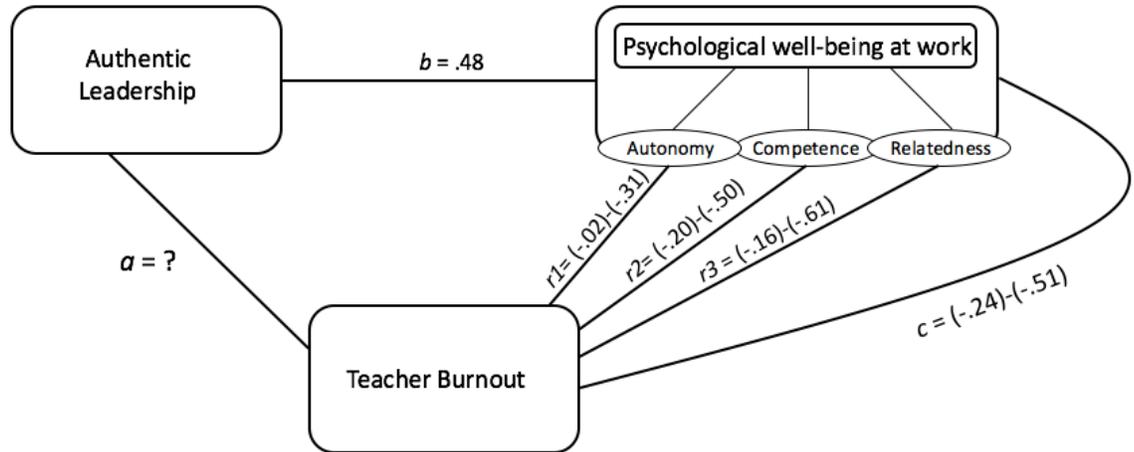


Figure 1. Teacher burnout known and unknown correlations. a = outcome of correlation between authentic leadership and psychological well-being at work, b = outcome of correlation between psychological well-being at work and teacher burnout, c = outcome of correlation between teacher burnout and authentic leadership.

a : Leroy et al. 2015

b : Fernet et al. 2013

$r1$: Skaalvik & Skaalvik, 2009

$r2$: Zhu et al. 2018

$r3$: Vîrgă et al. 2019

The purpose of this quantitative study is to develop a conceptual framework which outlines a comprehensive structure for teacher burnout and its antithesis. This study will look at the relationships between teacher burnout, psychological well-being at work, and the characteristics of authentic leadership, to build this framework of understanding (see Figure 2). This study will be guided by the following hypotheses:

1. There is a positive relationship between authentic leadership and psychological well-being at work (i.e., Leroy et al. 2015).

2. There is a negative relationship between teacher burnout and teachers' psychological well-being at work (i.e., Fernet et al., 2013, Skaalvik & Skaalvik, 2009; Vîrgă et al., 2019; Zhu et al., 2018).
3. There is a negative relationship between teacher burnout and authentic leadership (no research to date).

These hypotheses are the foundation in the development of a new framework on the antithesis of teacher burnout which will help create a clearer understanding of the root cause of burnout and point to a coherent solution to this global occupational issue. This study predicts if all three hypotheses are evidenced, a greater understanding of how to attain teacher well-being will be the result.

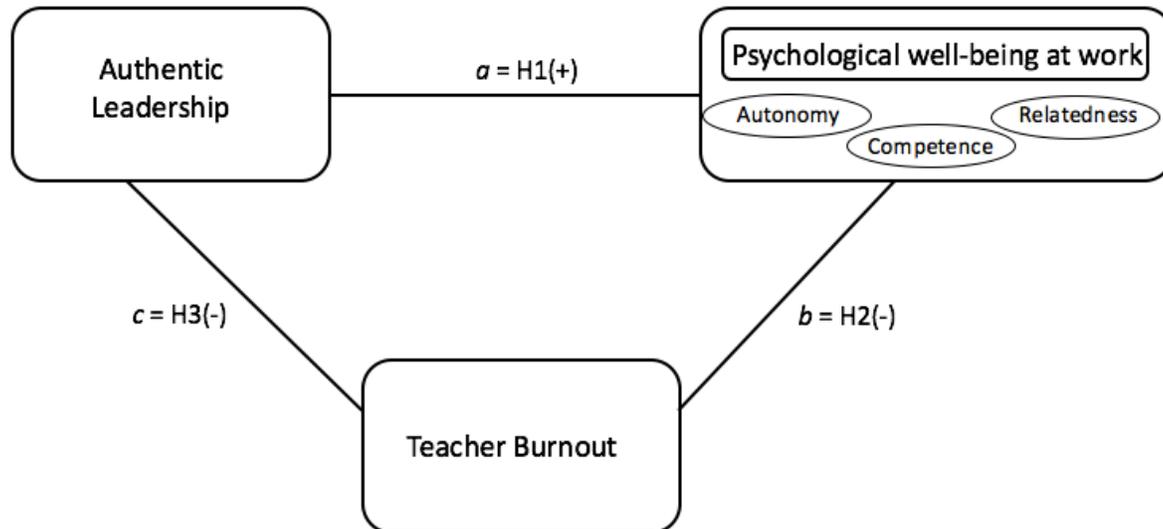


Figure 2. Teacher burnout conceptual framework. a = outcome of correlation between authentic leadership and psychological well-being at work, b = outcome of correlation between psychological well-being at work and teacher burnout, c = outcome of correlation between teacher burnout and authentic leadership, H1 = hypothesis 1, H2 = hypothesis 2, H3 = hypothesis 3.

Significance of the Study

Teacher burnout is a multidimensional phenomenon which has devastating consequences for teachers, students, and the overall quality of education in school systems (Pas et al., 2012; Skaalvik & Skaalvik, 2017; Villa & Calvete, 2001; Yong & Yue, 2007). Teacher burnout is also responsible for the lack of retention of teachers in the field (Ryan et al., 2017; Skaalvik & Skaalvik, 2016). Past research has attempted to understand and solve the burnout syndrome (Borg et al., 1991; Brissie et al., 1988; Fernet et al., 2012); however, thus far, there is no clear solution to this complex problem. This study seeks out the key factors associated with teacher burnout so a clearer understanding of the causes and conditions can be highlighted and an evident

solution established. Although a multitude of studies examine each of the basic psychological needs from self-determination theory: autonomy, competence, and relatedness, (Deci & Ryan, 2000) and its relationship with burnout symptoms (Skaalvik & Skaalvik, 2009; Vîrgă et al., 2019; Zhu et al., 2018), there is thus far only one study that looks at *all three* basic needs in this relationship. The current study will look at the relationship of all three components from SDT and teacher burnout. As well, although there are studies on leadership behaviors and styles and its relationship to well-being (Skakon et al., 2010), thus far there are no studies that focus on authentic leadership as an opposing force or antithesis to the burnout syndrome.

The development of this new model on the antithesis of teacher burnout is critical as the urgency to hire and retain quality teachers into the profession is growing. This study assumes when conditions in schools facilitate self-motivation and healthy psychological development, teachers perform well, which in turn, positively impacts student learning and overall increases the productivity of the school system. Students, teachers, and our overall society can benefit from a solution to teacher burnout.

The school system can also benefit from this solution as teacher retention would increase. Teacher attrition costs school boards a hefty amount as there are expenses when hiring new teachers, as well costs for training them (Ryan et al., 2017). In the United States, 40 to 50% of new teachers leave after less than five years in the profession (Darling-Hammond, 2010). Also, a school system loses approximately \$17,862 for each teacher who leaves their system (Ryan et al., 2017). However, even more than saving organizations from the high cost, solving burnout should be about

placing human values as a top priority because it is simply the right thing to do (Maslach & Leiter, 1997).

Looking back at the opening poem about burnout by an anonymous teacher, it is easy to hear in the author's words the negative self-concept, negative attitude, and loss of concern regarding students. The poem was written three decades ago and marks a time when teacher burnout began to make its appearance on the research scene. Looking through the multitude of studies conducted on teacher burnout throughout the past 30 years, it is easy to see the poem continues to echo a truth for today's teachers.

Theoretical Framework

Since the psychological well-being of teachers will be examined in this study, a fitting theory for this research is self-determination theory (SDT) by Ryan and Deci (2001). This theory reveals the key of what motivates humans in their life pursuits. Humans can be engaged or passive and alienated, depending on their social contexts (Ryan & Deci, 2000a). Self-determination theory looks at how social environments can support or hinder our innate processes of self-motivation and psychological growth (Ryan & Deci, 2000a). The theory outlines *autonomy*, *competence*, and *relatedness* as the three basic psychological needs of every individual (Ryan & Deci, 2000a).

As mentioned earlier, *autonomy* is a term to describe the freedom an individual feels in regard to their self-initiated behaviors (Ryan & Deci, 2000b). *Competence* describes our need to master elements in our environment (Deci & Ryan, 2000), and *relatedness* is defined as the sense of connectedness to other people or groups (Ryan & Deci, 2000b). When individuals are in conditions that support these three components, they experience superior types of motivation and engagement, including greater

tenacity, achievement, and creativity (Ryan & Deci, 2000a). Ryan and Deci (2001) postulate that all three psychological needs are essential for growth and development. Research on SDT also suggests that comparisons between people who are authentically motivated and those who are externally controlled reveal that individuals experiencing authentic motivation experience more interest, enthusiasm, and confidence, which then enhances performance, innovation (Deci & Ryan, 1991), vitality (Nix, Ryan, Manly, & Deci, 1999), and overall well-being (Ryan & Deci, 2000a).

Over the course of several years, researchers have associated the different components of SDT with burnout. Table 3 highlights these studies and which component of SDT was associated with burnout. It is important to note that some studies may have used different terms to describe autonomy, competence, and relatedness. For example, autonomy is defined as “freedom from external control” (Oxford, 2019, para. 3). Autonomy may be described by researchers as the sense of control individuals perceive themselves as having in their work (Maslach & Leiter, 1997) or may report on the rigidity of organizations. Researchers Brissie, Hoover-Dempsey, and Bassler (1988) posited that a rigid school organization allowed for little personal control or professional discretion by teachers over their daily responsibilities. These descriptions capture the essence of autonomy and therefore were included in the table below.

Similarly, the term competence is related to key terms found in the research on burnout. For example, Zhu and her fellow colleagues (2018) conducted a study on the relationship between teacher self-concept, teacher efficacy and burnout, and for the

purpose of their study they “regarded teacher self-concept as general beliefs of teaching competence” (p. 791). It was also suggested that overall beliefs of teaching competence may be a predictor for teaching efficacy (Zhu et al, 2018). Maslach and Leiter (2016), regard professional inefficacy as a decrease in feelings of competence and productivity at work. There is a thread of commonality between efficacy and competence which is reported in research. That common thread is also evident in their definitions. Efficacy is defined as the ability to produce a desired or intended result (Oxford, 2019, para. 1) and competence is defined by the ability to do something successfully or efficiently (Oxford, 2019, para. 1). For these reasons studies on efficacy were also included in the table below.

Research on relatedness encompassed studies who defined this term as the sense of connectedness to other people or groups (Ryan & Deci, 2000b). However, studies which included the support of colleagues, supervisors, or other individuals in the work environment were also included in this literature review. *Support* is defined as approval, encouragement, and comfort (Oxford, 2019, para. 5). The dictionary also offers moral support and friendship as synonyms for support (Oxford, 2019, para. 15). There is a common thread between feelings of relatedness and support. For this reason, studies which included support of individuals in the workplace were included in the table below.

Table 3

Studies on Components of SDT Associated with Burnout Ordered by Year

Authors	Autonomy/ Sense of Control	Competence/ Efficacy	Relatedness/ Support
Brissie et al. (1988)	x	x	x
Friedman and Farber (1992)		x	
Sarros and Sarros (1992)			x
Villa and Calvete (2001)		x	x
Skaalvik and Skaalvik (2007)	x	x	
Fernet et al. (2012)	x	x	
Pas et al. (2012)		x	x
Van Droogenbroeck et al. (2014)	x		x
Malinen and Savolainen (2016)		x	
Zhu et al. (2018)		x	
Vîrgă et al. (2019)			x

These studies all have similar findings. Individuals who feel more autonomous are less likely to experience burnout (Brissie et al., 1988; Fernet et al., 2012; Skaalvik & Skaalvik, 2007). Those teachers who perceive themselves as competent or highly efficacious in their job, are less likely to experience burnout (Brissie et al., 1988; Friedman & Farber, 1992; Fernet et al., 2012; Malinen & Savolainen, 2016; Villa & Calvete, 2001; Zhu et al., 2018). Finally, those who feel connected to their students (Van Droogenbroeck et al., 2014; Villa & Calvete, 2001), colleagues (Van Droogenbroeck et al., 2014; Pas et al., 2012; Vîrgă et al., 2019), and supervisors (Brissie et al., 1988; Fernet et al., 2012; Sarros & Sarros, 1992) are less likely to experience burnout. Since the components of SDT have been associated independently with burnout, this theory fits well as the guiding framework for this current research on teacher burnout. In fact, research by Fernet and colleagues (2013) is one of the only

studies which focuses on all three components of SDT and their relationship with teacher burnout. Fernet and his team acknowledge, “a contribution of this study is the recognition of the importance of each of the psychological needs proposed by SDT to explain burnout” (p. 133).

Summary

Teacher burnout is an urgent global issue (Borg et al., 1991; Klassen et al., 2009; Liu & Onwuegbuzie, 2012) and has negative consequences for both the teachers and the students (Pas et al., 2012; Skaalvik & Skaalvik, 2017; Villa & Calvete, 2001; Yong & Yue, 2007). Researchers acknowledge that teacher burnout is not a problem with the individual themselves, but instead, due to the social environment in which the individual works (Maslach & Leiter, 1997). Even the *best* teachers can burnout.

Past research has attempted to understand and solve the burnout syndrome; however, thus far, there is no clear solution to this complex problem. This study will look at the relationships between teacher burnout, psychological well-being at work (using SDT components), and the characteristics of authentic leadership to build a framework of understanding for teacher burnout.

The following chapters will shed additional light on this issue. Chapter 2 will review the literature on teacher burnout and outline the various definitions and findings. In particular, studies which examine either relatedness, autonomy, or competence in relation to teacher burnout will be reviewed. The literature on other related topics such as teacher well-being and authentic leadership will also be outlined. Chapter 3 will layout the methodology details for the study, including the various

measures being used. Chapter 4 will detail the analysis of the data. Finally, Chapter 5 will discuss the findings and make recommendations for future research.

Chapter 2: Literature Review

Since the mid 1970s, many researchers have studied the burnout syndrome to understand more thoroughly the prevalent arenas for burnout, the people who are most at-risk to experience it, and what preventative measures can be taken. The following review of the literature begins with the definition of burnout and a model to understand its construct. This is followed by an examination of research studies that focus on the environment or context where burnout manifests. Next, a more thorough examination of self-determination theory is reviewed, followed by research studies that examine burnout and each component of self-determination theory: autonomy, competence, and relatedness. Finally, the literature on the influence of leadership on burnout is reviewed.

Definition of Burnout

As mentioned earlier, the term *burnout*, was first used by Freudenberger (1974) who defined burnout as wearing out, failing, or becoming exhausted by the extreme demands on one's energy and resources. As research advanced on the phenomenon, extended definitions of the syndrome were constructed. According to Maslach and Jackson (1981), burnout is a syndrome composed of three specific dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion is defined as a depletion of emotional resources to the point where workers have nothing left to give at a psychological level (Maslach & Jackson, 1981). Depersonalization is the development of negative, cynical attitudes towards one's clients, and reduced personal accomplishment describes the tendency for workers to undervalue their work with others (Maslach & Jackson, 1981). This

research team developed the Maslach Burnout Inventory (MBI), which is a widely used instrument for measuring the three dimensions of burnout. During the development of the MBI, a sample of 1,025 workers from a wide range of human service occupations within the United States was used. The sample included police, doctors, counsellors, nurses, lawyers, social workers, educators, psychiatrists, psychologists, and administrators. The scale has found to be both highly reliable and valid as a measure of burnout (Maslach & Jackson, 1981). Since its conception in the early 1980s, the MBI has been developed into different versions for use in a wide variety of occupations. These different versions of MBI have been used in a multitude of studies on burnout from human services occupations to production workers.

Job Demands-Resources (JD-R) Model

Another way to understand burnout is through the equation of job demands versus job resources. Demerouti, Bakker, Nachreiner, and Schaufeli (2001) introduced the job demands-resources (JD-R) model through a correlational study which included 374 workers from northern Germany. These workers had occupations which fell into one of three categories: human services (nurses and teachers), industry (assembly line workers and control room operators), and transport (air traffic controllers). This research team proposed that work environments could be grouped into two main categories: job demands and job resources. Job demands refer to contextual or organizational features of work that necessitate sustained physical or mental effort (Demerouti et al., 2001). These demands result in physiological and psychological costs. This research team describes job demands as physical workload, shift work, time constraints, face-to-face contact, and physical environment. Job resources are defined

as health-protecting factors which are physical, psychological, or contextual features of the job which may support the achievement of work goals, lower job demands, or prompt the growth and development of the worker (Demerouti et al., 2001). This research team wrote that job resources can include constructive feedback, rewards, autonomy, job security, and support from a supervisor or leader. The JD-R model assumes that job demands are related to feelings of exhaustion, in contrast, the lack of job resources related to disengagement from work. The findings indicated that job demands positively related to exhaustion, and job resources are negatively related to work disengagement. Specifically, when job demands are high, a prediction of greater exhaustion, but not disengagement, is expected. When job resources are low, a prediction of higher levels of disengagement, but not exhaustion, is expected. When jobs are both high in demands and low in resources, then a prediction that employees will develop both exhaustion and disengagement are expected. According to Demerouti et al. (2001), the circumstance where both exhaustion and disengagement are present, represent the burnout syndrome.

The JR-D model remains important when looking at the different variables of teacher burnout. Skaalvik and Skaalvik (2009) conducted a correlational study which aimed at exploring relations between teachers' perception of job-related demands and resources and measures of burnout and satisfaction. Their study participants were 563 Norwegian teachers from elementary and middle school. They measured four aspects of teachers' perception of the school context. These four aspects were supervisor support, relations with parents, time constraints, and autonomy. The three dimensions of burnout were also measured. The findings indicated that school context variables

relate to job satisfaction in different ways and through different dimensions of teacher burnout. Job satisfaction was related to two dimensions of burnout. Emotional exhaustion more strongly predicted job satisfaction, whereas teachers' feelings of reduced accomplishment moderately predicted job satisfaction. It was also found that autonomy was both directly and indirectly related to job satisfaction. The researchers posited these results support the conceptualization of autonomy as a basic psychological need. This study also found that emotional exhaustion was most strongly related to teachers having time constraints, compared to the dimensions of depersonalization and reduced personal accomplishment which were most strongly related to teachers' relations with parents.

Teacher Burnout Context

The context or environment where burnout can manifest is important to the study of teacher burnout. Brissie, Hoover-Dempsey, and Bassler (1988) conducted a correlational study to look at context variables as well as individual variables to determine which factors most strongly influenced teacher burnout. The environmental factors they looked at were placed into two categories: organizational characteristics and teacher support. Organizational characteristics included school socioeconomic status (SES), teacher participation in school decision-making, and organizational rigidity. Teacher support included the support received by teachers from a variety of sources: principal, colleagues, students' parents, and teacher's own friends and family. The individual factors they examined were also placed into two categories. The first was individual status characteristics which was teacher degree level, total years of teaching experience, and total years in the present school. The second category was

individual perceptions, which included internal rewards and teaching efficacy. The sample was 1,213 elementary teachers from eight schools in a mid-southern state. The findings suggested that the individual variables of intrinsic rewards and teaching efficacy, as well as the environmental characteristics of organizational rigidity and support from principal and colleagues, were most strongly connected with teacher burnout. These researchers note that organizational rigidity accounted for the largest portion of the variance, with higher levels of burnout reported by teachers who perceived the school's organization as more rigid. Brissie, Hoover-Dempsey, and Bassler (1988) posited that a rigid school organization generally allows little personal control or professional discretion by the individual teachers over their daily responsibilities. This suggests that autonomy is also important in the burnout equation. In terms of teacher support, the results indicated that all sources of environmental support were important, including principal, colleagues, friends and family, and students' parents. Within this set, principal support accounted for the largest portion of the variance. This finding emphasized the critical role of the principal in enhancing positive working and learning conditions in the school. Finally, although less important than internal rewards, teachers' perceptions of teaching efficacy also stood out as a protective factor against burnout and supports past studies that posited an increase in teaching efficacy will decrease the likelihood of burnout.

Researchers continue to grapple with the many variables that exist in the work environment. Fernet, Guay, Senécal, and Austin (2012) examined the role of perceived school environment and motivational factors with a study involving 806 French Canadian teachers in public elementary and high schools. Using self-determination

theory (Deci & Ryan 2000), their study examined a model where motivation is examined against intra-individual changes in teacher burnout. The model emphasized that the changes in teachers' perceptions of their work environment were likely predictive to changes in burnout via motivational factors. Fernet and associates (2012) examined the classroom environment by specifically looking at the role of particular interpersonal factors (students' behavior and principal's leadership), and contextual variables (workload and decision-making). They also examined autonomous motivation and self-efficacy as motivational factors. Past research has suggested that workers who have more autonomous motivation have greater health and wellness than those with controlled motivation (Ryan & Deci, 2000) and autonomous motivation at work is negatively related to burnout, compared to controlled motivation which is positively associated with burnout (Fernet et al., 2008). These findings pointed to work motivation as influential on the burnout syndrome. Through this correlational study, Fernet and his team (2012) developed a motivational model of teacher burnout which suggested that over the course of a school year, changes in teachers' perceptions of their work environment (demands versus resources) were likely predictive changes in the burnout dimensions. Their results provided support for this model. Their findings underscored the idea that changes in teachers' views of their school environment and motivational variables are correlated to changes in burnout dimensions over the course of a school year. In particular, teachers' view of students' behavior and principal's leadership significantly impacted the burnout process. In regards to the motivational variables in this study, teachers' perceptions of both autonomous motivation and self-efficacy were significantly correlated to burnout. Teachers who perceived themselves

to be more controlled and less efficacious in their work were more likely to be exhausted toward the end of the school year. Fernet and colleagues (2012) posited that self-determination is an important motivational variable in teacher burnout. The study highlights the role of motivational variables in the burnout process, proposing that teachers' view of resources like the principal's leadership and demands of the work environment like workload including students' disruptive behavior, are connected to teacher burnout. This study underscored the effect of work demands on teachers' psychological well-being when they deem their self-determination and efficacy are jeopardized.

Teacher Well-being

In order to understand the different facets of teacher burnout, it is important to consider its positive opposite which is teacher well-being. Significant research has been done in this area. A study on teacher well-being by van Horn, Taris, Schaufeli, and Schreurs (2004) looked at how occupational well-being was structured in a school setting. This research team used two extensive conceptualizations of psychological well-being; a model of well-being by Ryff (1989) and a model of mental health by Warr (1987, 1994). Ryff (1989) identified six dimensions of well-being; *self-acceptance, environmental mastery, autonomy, positive relations, personal growth, and purpose in life*. Warr (1987, 1994) focused on well-being in the work environment. She and her colleagues identified four main dimensions; *affective well-being, aspiration, autonomy, and competence*. A fifth dimension was also found; *integrated functioning* takes into account all four dimensions and considers the person as a whole (Warr, 1987). Van Horn and colleagues (2004) noticed a substantial overlap

between the health models developed by Ryff (1989) and Warr (1987, 1994), and created a health model of their own which encompasses both models as well as aspects of burnout identified by Maslach (1993). See Table 4 for an overview of how the dimensions of van Horn and associates' (2004) work parallels the models developed by Ryff (1989) and Warr's (1987, 1994).

Table 4

Comparison of Three Models for the Structure of (General or Occupational) Well-Being

Dimensions	Ryff (1989);		
	Ryff & Keyes (1995)	Warr (1987, 1990, 1994)	van Horn et al. (2004)
1. Affective well-being (affective)	Self-acceptance	Affective well-being (anxiety, depression)	Affective well-being Commitment (Lack of) emotional exhaustion
2. Professional well-being (motivation)	Personal growth Purpose in life Autonomy	Aspiration Competence Autonomy	Aspiration Competence Autonomy
3. Social well-being (behaviour)	Environmental mastery Quality of relations with others		(Lack of) depersonalization Quality of social functioning
4. Cognitive well-being			(Lack of) cognitive weariness
5. Psychosomatic well-being			(Lack of) psychosomatic complaints

Note. van Horn et al., 2004, p. 368.

Van Horn and her collaborators (2004) identified the *affective* dimension in their model to include emotional exhaustion, job satisfaction, and organizational commitment. The *professional well-being* dimension covered autonomy, aspiration, and professional competence. Next, *social well-being* described two distinct concepts. The first was the depersonalization concept from Maslach's (1993) work on burnout.

The second concept was concerned with relations at school which includes the individuals' relationships with colleagues and students. *Cognitive weariness* further covered Maslach's (1993) concept of emotional exhaustion in the area of burnout. Finally, the *psychosomatic* dimension was the existence or non-existence of physical ailments such as back pain or headaches. This aspect of the model was added because a strong relationship was found between somatic symptoms and affective well-being (Taris et al., 2001), and somatic symptoms can be tracked to adverse conditions in the work environment (Van der Hulst, 2003). Horn and colleagues' (2004) study using 1,252 Dutch teachers confirmed support for their five-dimensional model and established occupational well-being as a phenomenon which exhibits itself in various ways.

Research on teachers' occupational well-being has continued. Klusmann, Kunter, Trautwein, Lüdtke, and Baumert (2008) furthered our understanding of teacher well-being with their study on teachers' occupational well-being and its relationship with quality of instruction. They found that teachers' self-regulatory styles impacted the success of students in the classroom. Klusmann and her associates (2008) also posited that when a teacher's work engagement is high and the teacher has the resilience needed to emotionally distance themselves from their work and cope with failure, they are more likely to experience increased levels of occupational well-being and heightened instructional performance. Their study defined occupational well-being as an individual who reported low levels of exhaustion and high job satisfaction. Klusmann and her fellow researchers used a German version of the Maslach Burnout Inventory (Maslach et al., 1996) to measure the level of emotional exhaustion

experienced by 1,789 German teachers. Their findings concluded that resilience against work demands and high levels of work engagement were key factors in teachers' occupational well-being. Although these researchers pointed to teachers' resilience as important against job demands, what is also understood from past research is that job resources are needed to offset these demands. The fact that both of these studies (Klusmann et al., 2008; van Horn et al., 2004) defined teacher well-being using aspects of Maslach's burnout syndrome, points to a discernable connection between teacher well-being and teacher burnout.

More recent research in the area of teacher well-being has rendered the development of a new instrument to measure teacher well-being. Renshaw, Long, and Cook (2015) created a pilot version of the Teacher Subjective Well-being Questionnaire (TSWQ) which was built upon the positive dimensions of van Horn and associates' (2004) study on teacher well-being. Their instrument focuses on three highly researched indicators: *school connectedness*, *joy of teaching*, and *teaching efficacy*. The research team defined *school connectedness* as "feeling supported by and relating well to others at school" (p. 294). *Teacher efficacy* was defined as "appraising one's teaching behaviors as effectively meeting environmental demands" (p. 294) and *joy of teaching* was described as "experiencing positive emotions and cognitions when engaged in teaching-related topics" (p. 294). The purpose of their study was to develop and validate the TSWQ as a brief and concise instrument to be used with other assessments in order to evaluate the well-being of teachers. Their results showed the TSWQ validly predicted teachers' psychological distress in the short-term and accounted for nearly half of the variance in teacher stress and burnout.

Research on teacher well-being not only relies on the dimensions of burnout to help define and construct the concept of teacher well-being, but the measures being created, like that of the TSWQ (Renchaw et al., 2015) are aligning with self-determination theory. *School connectedness* covers the component of relatedness from SDT, and *teacher efficacy* also comprises elements of competence, another component of SDT. Next is a more in-depth look at self-determination theory followed by another section which will evaluate the research on teacher burnout and its relationship to the different components of SDT.

Self-Determination Theory

Since the psychological well-being of teachers is examined in this study, a fitting theory for this research is self-determination theory by Deci and Ryan (2001). Before going into the details of the theory itself, it is important to understand the underlying concepts of this theory, specifically, the difference between hedonic and eudaimonic well-being. Ryan and Deci (2001) examined the differences between hedonic and eudaimonic happiness and how these differing concepts define well-being. Ryan and Deci (2001) explained that associating well-being with hedonic pleasure or happiness takes root in Greek philosophy. Aristippus, a Greek philosopher from the fourth century B. C., “taught that the goal in life is to experience the maximum amount of pleasure, and that happiness is the totality of one’s hedonic moments” (p. 144). Ryan and Deci (2001) wrote that hedonic psychologists view well-being as subjective happiness which embodies pleasure versus displeasure. They referred to Aristotle, who viewed hedonic happiness as a vulgar ideal, because it made humans slavish to their own desires. Hedonic happiness is not always synonymous

with well-being because pleasure producing outcomes may not always be healthy for people (Ryan & Deci, 2001). Aristotle believed that “true happiness is found in the expression of virtue—that is, in doing what is worth doing” (p. 145). This definition of happiness aligns with Waterman (1993) who noted that eudaimonic well-being is an individual’s desire to live in harmony with their *daimon* or true self. Individuals who experience eudaimonic happiness feel “intensely alive and authentic, existing as who they really are” (Ryan & Deci, 2001, p. 146). Ryff and Keyes (1995) also adopt Aristotle’s idea that well-being is not just about attaining pleasure but rather striving to realize one’s true potential. Ryff and Keyes’ (1995) posited that psychological well-being is composed of six dimensions of human actualization: *autonomy, personal growth, self-acceptance, life purpose, mastery, and positive relatedness*.

Ryan and Deci (2001) connected eudaimonic living with Ryff and Keyes’ (1995) definition of psychological well-being and posit their own theory of self-determination as another perspective that incorporates eudaimonia. Ryan and Deci’s (2000a) SDT outlines competence, relatedness, and autonomy as the three basic psychological needs of every individual and that all three psychological needs are essential for healthy growth and development. Ryan and Deci (2001) recognized that while Ryff and Keyes’ (1995) dimensions of psychological well-being is a state of eudaimonia that *defines* well-being, Ryan and Deci (2001) posited SDT reflects the concept of eudaimonia and *fosters* well-being.

The development of SDT addresses the observable difference in human motivation. One observation is the innate human drive to learn and realize one’s own potential. Another observation is a tendency for an individual to lack the desire to be

productive with their energy and talents. Self-determination theory focuses on the social environments that cause within- and between-person differences in motivation and aims to explain why some individuals are inclined to act while others are predisposed to passivity (Ryan & Deci, 2000). Self-determination theory posits that the basic need for competence, autonomy, and relatedness must be fulfilled throughout the life span for one to experience eudaimonic well-being (Ryan & Deci, 2000). Ryan and Deci (2000) define a basic need as “an energizing state that, if satisfied conduces health and well-being but, if not satisfied, contributes to pathology and ill-being” (p. 74). Ryan and Deci (2000a) posited that environments that support the three basic psychological needs engenders greater intrinsic motivation than environments that block satisfaction of these needs. This finding is of great significance for those who wish to motivate others to perform better and exert greater effort in their work (Ryan & Deci, 2000a). Managers can benefit from an understanding of how social environments can be responsive to basic needs so as to provide the conditions for growth and well-being (Ryan & Deci, 2000a). This statement would include leaders in the education field. When work environments in our schools support the fulfillment of the basic psychological needs outlined in SDT, teachers will experience greater motivation, performance, and overall well-being. The next sections will examine more closely the different components of SDT and their connection to burnout.

Autonomy. Autonomy is a component of self-determination theory which has surfaced in the literature on burnout. Burnout is experienced through occupational stress; however, athletes are also vulnerable to stress and burnout. Gagné (2003) conducted a study on 33 female gymnasts in northeastern U.S. to examine how the

motivation, well-being, and satisfaction of needs for these young athletes is impacted by their perceptions of support from coaches and parents. The study focused on the impact of parents' and coaches' styles of interaction on the gymnasts' motivation and well-being. Self-determination theory proposes that pressure and control in different contexts can have negative effects on an individual's motivation because these elements impede the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. These needs can either be satisfied or blocked through interactions with important people in a given environment. These interactions are called the *motivational climate*. Gagné (2003) posited that in order for autonomous motivation to be fostered, the person who has power to influence others, like a parent or a coach, should be both involved and autonomy supportive. Autonomy supportive behavior involves enabling and encouraging initiative and choice in the athlete, and understanding their view of the challenges they face. Self-determination theory proposes that satisfaction of the basic psychological needs for autonomy, competence, and relatedness is imperative for well-being to be achieved and sustained. When any one of these needs is blocked or frustrated, diminished engagement and ill-being is predicted. A total of 33 gymnasts completed a questionnaire and diary forms before and after practice for four weeks. The initial questionnaire contained questions which measured self-regulation (for gymnasts), children's perception of parents, and attendance. The diary provided information about the motivation for gymnastics, positive and negative affect schedule (PANAS), self-esteem, perceived vitality, and need satisfaction. The results of the study indicated that the athletes' perceptions of parent and coach autonomy support impacted the athletes' motivation. The gymnasts'

autonomous motivation increased as they perceived greater autonomous support from their coaches and parents. The study supports SDT's suggestion that autonomy support fulfills a psychological need that is important for sustained autonomous motivation. The results suggest that contexts where key people like coaches and parents support autonomy by listening to the athletes and offering them choices, where athletes feel personal connections and a sense of competence in their sport, are likely to support athletes' positive attitude and secure self-esteem. The study also suggests that when athletes train for autonomous reasons and where their needs are supported by influential people, they may practice in a way that decreases their risk of injury and burnout.

The relationship between autonomy and components of burnout is also found in research on teacher burnout. Skaalvik and Skaalvik (2014) conducted a study that explored whether self-efficacy and autonomy were independently related to teachers' engagement, job satisfaction, and emotional exhaustion. Skaalvik and Skaalvik (2014) expected that perceived autonomy would predict teacher engagement and job satisfaction positively. This hypothesis is aligned with self-determination theory by Deci and Ryan (2000), which posited that people need to experience a sense of autonomy and competence in order to feel intrinsically motivated. The researchers also predicted that teacher self-efficacy would be positively related to engagement and job satisfaction, and that both autonomy and self-efficacy would be negatively related to emotional exhaustion. A final hypothesis was that a statistically significant interaction would occur between self-efficacy and autonomy. This interaction compared teachers with high, average, and low self-efficacy and high, above average, below average, and

low autonomy. Participants for this study were 2,569 teachers from 127 Norwegian elementary and middle schools. Regression analyses from the data indicated that independently, teacher self-efficacy and autonomy predicted greater work engagement and job satisfaction as well as a decrease in emotional exhaustion. This finding supports self-efficacy theory, which suggests that self-efficacy beliefs affect how contextual opportunities and barriers are perceived (Bandura, 2006). This study also found that teachers with strong mastery expectations may view autonomy as a chance to try out new teaching techniques, to alter practices to suit the various needs of students in the class, and to teach according to their own values. This process may lead to a greater sense of autonomy which then may increase the work engagement and job satisfaction of the teacher. For educators with low mastery expectations, autonomy may offer a chance for them to avoid challenges and to conceal any shortcomings they perceive themselves as having. Although this strategy is self-protective in nature, it may create a roadblock to personal and professional learning.

Competence. Studies involving teachers' sense of competency has contributed greatly to the research on teacher burnout. Competence in the teaching profession is a multifaceted factor as there are several influences on a teacher's sense of competence. Past literature on teacher self-concept and teacher efficacy are examined next to understand how teacher competence and burnout interact.

There have been a number of studies which isolate teacher self-concept and examine how this variable impacts burnout. Friedman and Farber (1992) conducted research with a sample of 1,017 teachers from 40 different Israeli schools. Their aim was to study the relationship of teacher burnout and the different ways teachers

perceive themselves professionally as well as how teachers view others' perceptions of them in the educational setting. Their findings indicated that professional satisfaction, which is defined as teachers' sense of fulfillment regarding their work, had the strongest negative correlation to burnout. Friedman and Farber (1992) posited that educators who feel gratified by their work are less likely to feel burned out. They suggested that increasing the teachers' ability for classroom success along with the internal rewards of reaching students, makes a difference in teachers' vulnerability to burnout. They recommended reform efforts that reduce classroom size, allow teachers more control over their curricula, and provide additional services for students with learning disabilities, as ways to assist teachers in being more successful and feeling satisfied with their work.

Teacher self-concept was also the focus of a study conducted by Villa and Calvete (2001). These researchers investigated the importance of teacher self-concept in terms of its influence on teacher burnout. This research team conducted a study to develop a scale for the measurement of teacher self-concept from a multidimensional perspective. The proposed scale is based on previous research by Villa (1985, 1992) and instruments developed by Marsh (1987, 1990). The scale consists of six subscales which are considered relevant dimensions of the professional self-perception of teachers and includes competence, interpersonal perception, satisfaction, taking risks and initiatives, and self-acceptance. A second objective of their research was to study the relationship between professional self-concept and burnout. The study consisted of 197 teachers from the Basque Country in Spain. The results of this study showed numerous correlations between teacher self-concept subscales and psychological

symptoms. The strongest coefficient indicated a positive relationship between personal accomplishment and relationships with pupils, while the next strongest coefficient indicated a negative relationship between satisfaction and emotional exhaustion. In particular, the dimensions of relations with pupils, interpersonal perceptions, and satisfaction are the three dimensions most strongly associated with burnout components. These data demonstrate the multidimensional nature of self-concept and underscore the relevance of self-perceptions linked to personal connections in the work setting.

Several researchers point to teacher efficacy as a possible mediator to the condition of burnout. Pas, Bradshaw, and Hershfeldt (2012) conducted a longitudinal study using a multilevel modelling approach with 600 teachers from 31 elementary schools. Data were collected three times across two academic years. The aim of this study was to identify a variety of teacher and contextual factors that predict the changes in teacher efficacy and burnout over time. Findings indicated that both teacher efficacy and burnout increased over time, with burnout increasing at a more rapid rate. This highlighted a need for ways to increase teacher efficacy and decrease the rate of growth of burnout. The results also indicated a significance in preparedness as a variable influencing efficacy. Pas et al. (2012) suggested that preparedness be an area of focus during pre- and in-service teacher training, as it can assist teachers with feeling more efficacious and can lower levels of burnout. Pas and colleagues (2012) highlight the homogenous nature of the school environments as one drawback of their study. These researchers also point out that some inconsistencies were present, for

example, the study spanned over two years but some participants were only a part of the second year data collection.

Despite some these limitations, perceptions of teacher affiliations which includes connections teachers have with colleagues, students, and leaders, was a predictor for teacher efficacy. This finding suggested that activities that promote the formation of strong staff relationships and collegial support may have a positive impact on teacher efficacy and promote a reduction in burnout.

Although a study by Caprara, Barbaranelli, Borgogni, and Steca (2003) does not directly look at burnout, it contributes significantly to the understanding of how teacher efficacy influences job satisfaction. As cited earlier, the findings of Skaalvik and Skaalvik (2009) indicated that school context variables relate to job satisfaction in different ways and through different dimensions of teacher burnout, inferring a relationship between job satisfaction and burnout. Caprara, Barbaranelli, Borgogni, and Steca (2003) looked at the generalizability of the concept that teachers' sense of self- and collective-efficacy were principle factors of job satisfaction. The sample was 2,688 teachers from 103 Italian junior high schools. Participants filled out reports which assessed their feelings of self-efficacy, their perceptions of how other school stakeholders influence the well-functioning of the school, as well as their collective-efficacy and job satisfaction. The results attested to the validity of a guiding model that conceptualizes self-efficacy and collective efficacy beliefs as the principle factors of teachers' job satisfaction. Furthermore, these findings provided clear evidence of the importance that efficacy beliefs may have in the educational setting. Self-efficacy beliefs account for only part of the equation, as most of the effects on job satisfaction

were found to be exerted by perceived collective efficacy, which in turn, was influenced by the intervening and mediating effects of teachers' perceptions of other stakeholders' behavior. It was found that principals' and colleagues' behavior had much stronger effects on collective- and self-efficacy than the cumulative effects of families, students, and staff. Caprara, Barbaranelli, Borgogni, and Steca (2003) recommended strengthening the leadership of principals, as they are often assigned the responsibility of creating the conditions for achieving the synergies that form the basis of collective efficacy.

Important findings on teacher efficacy continue to develop through burnout research. Skaalvik and Skaalvik (2007) developed the Norwegian Teacher Self-Efficacy Scale for use in a study on dimensions of teacher self-efficacy. They examined relations among factors including teacher self-efficacy, perceived collective teacher efficacy, external control, strain factors, and burnout. Participants for this study were 246 teachers from 12 elementary and middle schools located in a large region in Norway. These authors hypothesized a negative relationship between teacher self-efficacy and teacher burnout, as well as a positive relationship between perceived on-the-job demands and teacher burnout, partially mediated through teacher self-efficacy. The researchers used the Maslach Burnout Inventory, as well as an instrument they developed for the study, called the Norwegian Teacher Self-Efficacy Scale (NTSES). This scale consists of the following subscales: instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, and coping with changes and challenges. Skaalvik and Skaalvik (2007) designed their research to test how external control, teacher self-

efficacy, and teacher burnout relate to four job demands: teaching behavior challenged students, difficult parents, discord with fellow teachers, and having to use teaching strategies they did not believe in. The strongest relations were found for difficult parents and having to use teaching strategies they did not believe in. The study also showed a strong correlation between teacher self-efficacy and teacher burnout. These results emphasized the importance of autonomy and teacher self-efficacy in the burnout equation.

Additional research on teacher efficacy and collective efficacy was conducted by Malinen and Savolainen (2016). Unlike teacher efficacy, which is the self-evaluation of one's capabilities as an instructor, collective teacher efficacy is the perceptions of an entire teaching staff on their joint abilities to positively influence student learning (Goddard & Goddard, 2001). Malinen and Savolainen (2016) conducted a longitudinal study which investigated how teachers' perception of school climate affected their feelings of job satisfaction and burnout. Using structural equation modeling, they examined how self-efficacy and collective efficacy in managing students' difficult behavior mediate the effect of perceived school climate on job satisfaction and burnout. The participants in this study were 642 Finnish lower secondary school teachers from 38 schools. Participants were given questionnaires which collected demographic information and also collected data using five scales for measuring teacher self-efficacy, collective teacher efficacy, school climate, burnout, and satisfaction with the current job. Analysis indicated that school climate had a positive impact on job satisfaction; teachers evaluated school climate more positively at the beginning of the school year and greater job satisfaction towards the end of the

year. However, school climate did not directly impact teacher burnout. Teacher self-efficacy in managing students' challenging behavior had an increased effect on job satisfaction and a negative influence on burnout. Collective efficacy in student discipline did not significantly impact job satisfaction or burnout in their model. The results underscore the importance of supporting teachers' self-efficacy in the area of student behavior challenges, which is directly related to burnout and job satisfaction.

More recently, researchers are looking at how both teacher self-concept and teacher efficacy interact to influence burnout. Zhu, Liu, Fu, Yang, Zhang, and Shi (2018) conducted a correlational study using structural equation modelling with 1,892 teachers across seven Chinese geographical regions. Their research also included demographic variables. The team used the Teacher Self-Concept Evaluation Scale (Villa & Calvete, 2001) to measure teacher self-concept, as well as the Teacher Efficacy Scale (Yu, Xin, & Shen, 1995) to measure teacher efficacy, and the Maslach Burnout Inventory Educators' Survey (Maslach et al., 1996) to measure the three dimensions of burnout. The findings were that teacher self-concept had influence over teacher burnout through teacher efficacy. Analysis indicated that experienced teachers' self-concept offered more to their feelings of efficacy than beginning teachers. However, there were no differences between male and female teachers, as well as between beginning and experienced teachers in the mediation effects of teacher efficacy connecting teacher self-concept and burnout. These researchers postulated that teacher self-concept offers a foundation for educators to make judgements about their efficacy. Self-concept and efficacy work together as protective determinants against burnout. Zhu, Liu, Fu, Yang, Zhang, and Shi (2018) noted that for their research,

teacher self-concept was defined as a general assessment of teaching competence. It was also noted that this overall belief of teaching competence can directly impact the dimension of reduced personal accomplishment and indirectly affect the other two dimensions of burnout through teacher efficacy. Overall, compared to teacher self-concept, teacher efficacy had a more substantial and persistent impact on burnout.

Relatedness. Another important variable within the teacher burnout equation is social support. Sarros and Sarros (1992) conducted a correlational study with 492 secondary teachers from Victoria, Australia. They were looking for the relationship between different categories of social support and teacher burnout. These researchers used a definition of social support from House (1981) which stipulates that social support is an interpersonal exchange involving genuine concern, instrumental aids (like goods or services), information, or appraisal (which is information relevant to self-evaluation). Findings indicated that of all sources of social support available, principal support was the first statistically significant predictor for each burnout subscale. Results also indicated that social support could be the source of aggravation for burnout, for example when teachers shared negative work experiences. These findings revealed the intricate nature of social support as a resource against burnout.

How individuals experience social relationships in the workplace has been examined in different ways in recent research. Leiter, Day, and Price (2015) used a sample of 1,624 Canadian healthcare providers to examine how attachment styles at work were related to the quality of social relationships at work. In this study, they introduced a new measure of workplace attachment, connected attachment styles to job burnout, and extended the model of job burnout to include attachment styles.

Attachment theory may explain how humans view, respond to, and manage stress occurring in their personal relationships (Mikulincer & Florian, 1995). Leiter and his colleagues (2015) posited that securely attached individuals have a positive intrinsic concept of self and others. These individuals are confident in relationships, have greater self-efficacy in managing stress, and believe that others will support them during their time of need. Securely attached individuals are more likely to have better mental and physical wellness than insecurely attached individuals (Mikulincer & Florian, 1995). A hypothesis for this study was that both anxiety and avoidance attachment are negatively related to work efficacy, psychological security, trust, and civility; while positively related to incivility, exhaustion, and cynicism. The measurement for attachment was a new Short Workplace Attachment Measure (Leiter, Price, & Day, 2013). Results indicated support for this hypothesis. Anxiety attachment was associated with incivility, civility, trust, psychological security, and burnout, while avoidance was significantly related to efficacy, civility, and manager and peer incivility. This research found that personal attachment styles in the investigation of work environment constructs is especially important in understanding job burnout.

Attachment styles and social interactions in the workplace continue to be of interest to researchers. Recently, Vîrgă, Schaufeli, Taris, Van Beek, and Sulea (2019) conducted a study using structural equation modelling to test adult attachment styles and their association with burnout and performance by examining the mediating role of burnout. Their research extended the JD-R model in the area of personal demands. Vîrgă and associates (2019) used the JD-R model (Bakker, Demerouti, & Verbeke, 2004) and attachment theory (Bowlby, 1988) to frame their hypothesis that insecure

attachment styles can be personal demands that contribute to an employee's exhaustion and cynicism, which in turn, impairs their performance on the job. Results from their research indicated that burnout entirely mediated the relationship between insecure attachment and job performance. Attachment-related anxiety was negatively associated with burnout, indicating that employees who tended to show dysfunctional interaction patterns at work are more prone to experience burnout because they used non-effective energy management strategies. Vîrgă and her team (2019) noted some drawbacks to their study. One limitation was the use of self-reported data versus data collected from an objective measurement. The team also noted that attachment was measured using two subscales (avoidance and anxiety) and if a scale had been used for measuring secure attachment, this may have offered important insights to the overall results. Despite this drawback, Vîrgă and her team (2019) contributed to an understanding of the impact of insecure attachment style on well-being and behavior at work.

Authentic Leadership

Some studies focus on the role of the principal and their influence on the climate or working environment. A closer look at leadership in relation to the burnout equation is important in order to understand the full story of teacher burnout. The connection between leadership style and well-being has been examined by a number of researchers. Authentic leadership (AL) is a newer construct developed over the past 20 years. The concept of AL drew attention when Harvard professor Bill George (2003) published a book on AL. A summit was hosted by the Gallup Leadership Institute at the University of Nebraska-Lincoln in 2004 on Authentic Leadership Development. The aim of the summit was to engage academics and researchers in a dialogue with

leaders from various disciplines regarding authentic leadership. Following the summit, several research teams published articles advancing authentic leadership (Avolio & Gardner, 2005; Ilies et al., 2005; Michie & Gooty, 2005; Shamir & Eilam-Shamir, 2005). Although the teams worked independently from each another, two particular teams offered similar ideas on the construct of AL (Avolio & Gardner, 2005; Ilies et al., 2005). Both of these research teams' definitions follow closely the work of Kernis (2003) who identified four dimensions of AL. The first component is *self-awareness*. Individuals who are self-aware have an understanding and acceptance of their true selves including their strengths and weaknesses (Ilies et al., 2005). Self-awareness is also viewed as the process of consistently assessing one's own talents, core values, emotions, and beliefs (Avolio & Gardner, 2005). When leaders possess self-awareness they can lead in a way that reflects the Greek aphorism "Know Thyself" (Gardner et al., 2011). The second component of authentic leadership is *unbiased processing*. This characteristic is about the leader's ability to gather information about situations from diverse perspectives so they may assess the situation in a balanced way (Avolio & Gardner, 2005). The third component in authentic leadership is *authentic behavior/acting*. When a leader behaves authentically, they are behaving according to their true selves which means acting according to their values and core beliefs (Ilies et al., 2005). The final component to authentic leadership is *relational authenticity* (Ilies et al., 2005) also referred to as *relational transparency* (Avolio & Gardner, 2005). This component is about the open and transparent way authentic leaders and followers exchange information with each other (Avolio & Gardner, 2005).

Authentic Leadership is different from other leadership styles in that it is considered a generic style and is described as a “root construct” (Avolio et al., 2004). Root construct is a term to help characterize AL as the basis for other forms of positive leadership (Avolio & Gardner, 2005). “Authentic leadership can incorporate transformational, charismatic, servant, spiritual or other forms of positive leadership” (Avolio & Gardner, 2005, p. 329).

Research teams are eager to understand authentic leadership and how this root style relates to employee well-being. For example, a study by Nelson, Boudrias, Brunet, Morin, De Civita, Savoie, and Alderson (2014) looked at authentic leadership in health service settings and the psychological well-being of nurses. These researchers asserted that since managers seem to be important actors in the promotion of psychological well-being among employees, authentic leadership can impact work climate in a positive way and increase feelings of psychological well-being at work. Four hypotheses were proposed. First, authentic leadership will be positively related to psychological health at work. Second, authentic leadership will be positively related to climate. Third, climate will be positively related to psychological health at work. Finally, climate will mediate the relationship between authentic leadership and psychological health at work. The sample was 406 nurses from Quebec, Canada. The researchers used the Authentic Leadership Questionnaire (ALQ) to assess the supervisors’ authentic leadership behaviours and an adapted 17-item scale developed by Roy (1989) to measure perceptions of work climate. Psychological well-being at work was assessed using an adapted scale by Massé et al. (1998). Results indicated that authentic leadership was related to psychological well-being before introducing

climate as a mediator. They also found that work climate mediated the relationship between AL and psychological health at work among these nurses. This study indicated that authentic leadership shows promise in the improvement of work climate and consequently in the improvement of psychological well-being of personnel.

Another research team who links authentic leadership with positive follower health, is Macik-Frey, Quick, and Cooper (2009). This research team proposed that a positive health model accounts for highly effective leadership. These leaders aspired for their own personal health and enabled health in their followers. Macik-Frey, Quick, and Cooper (2009) used four core elements of positive health by Ryff and Singer (1998) to frame their position. These core elements are: having a life purpose, strong connections with others, positive self-concept and mastery, and the perception that negative events lead to a meaningful end. The team also used the broaden-and-build theory by Fredrickson (2001), which offers a theoretical basis for how growth through adversity is supported by optimism and a positive approach. The premise of their article was that leaders who possess positive emotion may spread this feeling to their followers. This contagion can boost a staff along with the work environment in terms of worker performance and well-being. Macik-Frey, Quick, and Cooper (2009) suggested that transferring optimism and positive mood from leader to follower can go beyond performance improvements to enhance follower health by increasing positive self-concept, mastery, and the perception that negative events lead to a meaningful end. The team concluded that healthy individuals are top achievers and greatly fulfilled by their work, therefore conceptualizing health promotion as a key role for leaders and a component of success in the leadership process.

Other contributors to the research on authentic leadership are Leroy, Anseel, Gardner, and Sels (2015). They conducted a study on 30 managers and 252 workers in 25 Belgian service companies. The premise of their research was that authentic leadership, authentic followership, and their interaction are positively associated to the fulfillment of workers' basic needs, which is positively associated to workers' overall performance. The study used self-determination theory (Deci & Ryan, 2000) to examine how authentic leadership and authentic followership coproduce worker satisfaction of the basic psychological needs necessary for autonomous work motivation and work performance. In this study, workers rated their perceptions of authentic behaviors displayed by their leaders by filling out the Authentic Leadership Questionnaire (ALQ). Followers also rated themselves using an adapted version of the 16-item Authenticity Inventory developed by Kernis and Goldman (2006). Basic need satisfaction was measured using the 21-item self-reporting instrument developed by Deci and colleagues (2001), and finally work role performance was measured using the individual section of an instrument developed by Griffin and associates (2007). The findings of the study indicated a positive relationship between authentic leadership and worker basic need satisfaction. Leroy and colleagues (2015) posited that leaders who avoid engaging in defensive behaviors to protect their ego and instead tap into their true selves are more likely to satisfy worker basic needs. They also found that the interaction between authentic leadership and authentic followership was positively associated with the satisfaction of workers' basic needs. In conclusion, the findings showed that basic need satisfaction mediates the positive relationships of authentic

followership and authentic leadership, and how these two concepts work together to influence worker performance.

Summary

There is substantial research connecting teacher autonomy, competence, relatedness, and leadership styles with symptoms of burnout. These studies confirmed the importance of autonomy with basic psychological need satisfaction and well-being (Gagné, 2003) and evidence that perceived autonomy predicts teacher engagement and job satisfaction positively, while relating negatively to emotional exhaustion (Skaalvik & Skaalvik, 2014). There is also considerable research on teacher competence. Several studies looked specifically at teacher self-concept (Friedman & Farber, 1992; Villa & Calvete, 2001), teacher efficacy (Caprara et al., 2003; Pas et al. 2012; Skaalvik & Skaalvik, 2010), and how these two elements interact to affect overall competency (Zhu et al. 2018).

In the area of relatedness and burnout, researchers have found that of all sources of social support available, principal support is the first statistically significant predictor for each burnout sub-scale (Sarros and Sarros, 1992). Researchers have also used attachment theory to help explain the relationship between social connections and burnout. Specifically, researchers have found that anxiety attachment was related to incivility, civility, trust, psychological security, and burnout, while avoidance attachment was significantly connected to efficacy, civility, and manager and peer incivility (Leiter, Day, and Price, 2015). Vîrgă and associates (2019) also used attachment styles to frame their research which concludes that insecure attachment

styles can be personal demands that contribute to an employee's exhaustion and cynicism, which in turn, impairs their performance on the job.

More recently, there has been important research linking employee well-being and authentic leadership. Authentic leadership has been related to psychological well-being before introducing climate as a mediator (Nelson et al., 2014). Another study found that authentic leaders aspired for well-being and enabled good health in their employees (Macik-Frey, Quick, & Cooper, 2009). Finally, Leroy and associates (2015) found that basic need satisfaction mediated the positive relationships of authentic followership and authentic leadership, and that these two concepts worked together to influence worker performance.

Valuable research has been done in the area burnout, yet teacher burnout and stress continue to be a concern in many countries around the world (Borg et al., 1991; Liu & Onwuegbuzie, 2012). Burnout has negative consequences for teachers and students (Pas et al., 2012; Skaalvik & Skaalvik, 2017; Villa & Calvete, 2001; Yong & Yue, 2007) which is creating urgency for school systems to find a solution to this problem. Although a multitude of studies examined each of the basic psychological needs from self-determination theory (Deci & Ryan, 2000) and its relationship with burnout symptoms, there is no study yet, that looks at leadership *and* all three basic needs in this relationship.

Teacher burnout is a current problem with serious consequences for students, teachers, and organizations (Maslach & Leiter, 1997; Yong & Yue, 2007). Past research on burnout has contributed in important ways to our understanding of the conditions, causes, and cures of this syndrome; however, there is a gap in the research

regarding the relationship between teacher burnout and authentic leadership. A new conceptual framework which outlines a comprehensive structure for teacher burnout is needed as it may help explain teacher burnout and some factors involved in the process. This study will look at the relationships between teacher burnout, psychological well-being at work, and the characteristics of authentic leadership, to build this framework of understanding.

Chapter 3: Methodology

The purpose of this quantitative correlational study was to develop a conceptual framework which outlines a comprehensive structure for teacher burnout and its antithesis. This study examined the relationships between teacher burnout, psychological well-being at work, and the characteristics of authentic leadership, to build this framework of understanding. The methodology for this study is outlined in this chapter and includes the rationale for the methods, how participants were selected, details on the instruments used, and how the data were collected and analyzed.

This study was guided by the following hypotheses:

1. There is a positive relationship between authentic leadership and psychological well-being at work (i.e., Leroy et al. 2015)
2. There is a negative relationship between teacher burnout and teachers' psychological well-being at work (i.e., Fernet et al., 2013; Skaalvik & Skaalvik, 2009; Vîrgă et al., 2019; Zhu et al., 2018)
3. There is a negative relationship between teacher burnout and authentic leadership (no research conducted to date).

These hypotheses are the foundation in the development of a new framework on the antithesis of teacher burnout which will help create a clearer understanding of the root cause of burnout and point to a coherent solution to this global occupational issue. This study predicts if all three hypotheses are true, authentic leadership and psychological needs at work will be known as important factors in the burnout equation. Although correlational studies do not indicate causal relationships between factors, this study would suggest that when the experience of teacher burnout is low,

perceived authentic leadership is high and psychological needs are satisfied. As well, when the experience of teacher burnout is high, perceived authentic leadership is low and psychological needs are not met.

Rationale for Methodology

Quantitative studies are appropriate for researching phenomenon which have naturally occurring numerical data or data that can be collected in a numerical way (Muijs, 2016). The aim of this study was to look at the phenomenon of teacher burnout and the relationships that exist among three key factors: teacher burnout, psychological well-being at work, and authentic leadership. These factors have been well studied, so much so that there are several valid and reliable instruments with which these factors can be measured, thus providing numerical data to represent the key factors.

Since the hypotheses state a combination of predicted relationships among teacher burnout, authentic leadership, and psychological well-being at work, the type of quantitative research appropriate for this study is correlational research.

Correlational Research. Correlational research is helpful in determining whether a relationship exists between two variables, as well as to what degree this relationship occurs (Mills & Gay, 2016). The correlational coefficient is expressed with a decimal number between -1.00 to +1.00. This decimal number indicates the strength and direction of the relationship between two variables. Mills and Gay (2016) emphasized reliable and valid data used for correlational studies along with a large enough sample to reach statistical significance, will produce quality information in the form of a correlation coefficient. This study aimed to provide both reliable and valid

data through the careful choosing of instruments and a sample size which will show statistical significance.

In correlational studies, selected variables for study may not have numerical data which can be compared because the units of measurement differ. Cohen, Cohen, West, and Aiken (2003) wrote that transforming data to z-scores is a means of converting scores so they are comparable. This capability within correlational research was beneficial for the current study as teacher burnout, authentic leadership, and psychological well-being were calculated with different instruments therefore their measurements could be transformed if necessary. There are some limitations to note regarding correlational studies. One of them is that a relationship between variables does not evidence that one variable causes another (Muijs, 2011). Other limitations include the assumption of a linear relationship between two variables in a study, which may not always be true, as well, outliers found in the data may artificially decrease or increase the strength of a relationship, undermining the accuracy of the analysis (Muijs, 2011). Visual analysis of the data using scatterplots and histograms were used to examine both the type of relationship and any outliers.

Survey Research. Numerical data was collected through the administration of a survey targeted to a select population. This population was any educator currently teaching in Canada at the K-12 level. It is important to note that researchers using the survey method have been challenged in recent years because technology has changed how people communicate with each other (Hill, Dean, & Murphy, 2013). Survey research requires a social interaction between a researcher and a respondent, so present and future surveyors should look closely at how social media can be used in data

collection (Hill et al., 2013). For this reason, social media as a means to reach the ideal participants was used for this study. Hill and colleagues (2013) identified a concept called *sociality hierarchy* which describes levels of social (person-to-person) interactions using computing devices. For this study, the sociality hierarchy levels known as *community* and *broadcast* were used to engage the targeted population (Canadian teachers). According to Murphy, Hill, and Dean (2014), *community*-based conversations occur through social media when members of a community “communicate with each other and within their membership ranks” (p. 25). Facebook, Twitter, and blogs, were among a list of social media being used in survey research (Murphy et al., 2014). This study used a currently activated blog created by the researcher to post an article of interest on the topic of teacher burnout in the month of October 2019. Posting an article in this manner is considered a level of sociality hierarchy called *broadcast* (Murphy et al., 2014). “At this level, online users speak to the crowd or from a virtual soapbox, dispensing information about themselves for anyone to consume...The essence of broadcast social media is one person communicating with many others” (Murphy et al., 2014, p. 25). A correlational research design using survey methods was appropriate for the current study because the opportunity to engage teacher communities through social media was available, and valid and reliable instruments could be obtained to create an on-line survey for participants.

Sampling

Mills and Gay (2016) suggested a sample size of 30 participants is “needed to establish the existence or nonexistence of a relation” (p. 146). However, these authors

also suggest survey research requires a sample size appropriate to the population. The population of teachers in Alberta is approximately 39,191 teachers. Mills and Gay (2016) proposed that a population beyond 5,000 is almost irrelevant and 400 as a sample size will suffice as statistical power to detect effect size. The target sample size for this study was 400 participants. The process to elicit this number of participants is described in further detail in the Design and Procedures section of this chapter. The expectation of participants from the *community* and *broadcast* methods is based on statistics provided by the host website of the researcher's blog, Squarespace. The analytic report for the researcher's last post indicated that 168 unique visitors had viewed an article posted on April 6, 2019. Of those 168 visitors 139 visited the site via social media, 3 visited the site through a web search, 1 visited the site through an email link, and 1 came to the article through a referral. Of the 168 visitors, 154 were from Canada and 14 were from the United States. These statistics speak to the far-reaching ability of social media as the researcher has no contacts on Facebook or Twitter from the United States, yet 14 unique visitors from the United States were noted. The statistics also emphasize the capacity of social media to engage viewers. These 168 unique visitors were engaged by a single posting on Facebook where the researcher has 77 teacher contacts and a single posting on Twitter where the researcher has 11 unique teacher contacts. Also, no reward incentives were offered on the April 6 posting. The current study used incentives to enlist teachers to participate and share the research survey, and more than one posting was used to invite teachers to participate. This resulted in more teachers visiting the blog and engaging with the survey.

Another benefit to using social media for sampling purposes is that potential participants from across the country can be a part of this research study. It is important to note that the use of social media for sampling equates to a nonrandom sampling method, which is a selection process where the researcher does not have the ability to specify that each member of a population has the same chance to be selected for the sample (Mills & Gay, 2016). One way to understand the number of teachers dispersed throughout the province is to compare the number of attendees at each of the nine mandatory teachers' conventions in the province (Table 5). The numbers in Table 5 were used to understand how closely the sample in the study represents geographically, the population of Alberta teachers. The use of teachers' conventions as a means to identify geographically where participants are from, was decided upon so teachers could confidently provide feedback on their survey without fear their anonymity would be compromised. Some school divisions in Alberta have fewer than 250 teachers, therefore identifying participants geographically through their teachers' convention designation where attendees are well over 1000 teachers ensured greater anonymity for participants. This geographical data also assisted the researcher in understanding how well the population is represented throughout the province of Alberta.

Table 5

Alberta Teachers' Conventions Attendees and Numbers to Represent a Sample of 400

Alberta Teachers' Conventions	# of Attendees	Percentage of the sample	Representation in a sample of 400
Calgary City Teachers' Convention	10,420	27	106
Central Alberta Teachers' Convention	2,587	7	26
Endless Skies Teachers' Convention	2,489	6	25
Greater Edmonton Teachers' Convention	8,731	22	89
Mighty Peace Teachers' Convention	1,847	5	19
North Central Teachers' Convention	6,179	16	64
Palliser District Teachers' Convention	3,358	8	34
Southeastern Teachers' Convention	1,684	4	17
South West Teachers' Convention	1,896	5	20
Total	39,191	100	400

Note. Information taken from ATA 2018-19 Membership List

Setting & Participants

This study was conducted in the province of Alberta in Canada. Although Alberta teachers were the target participants for this study, any Canadian teacher could participate. Alberta students rank high, compared to students from countries around the world who participate in the Program for International Student Assessment (PISA) tests. These international tests were originally developed starting in 1997 by the Organization for Economic Cooperation and Development (OECD) whose mandate is to promote economic growth, prosperity, and sustainable development. The PISA was initiated so teachers and school leaders could connect globally through an international

benchmark based on a common scale. The PISA assessments are offered every three years and provides comparative data on the performance of 15 year-olds in reading, mathematics, and science (Organization for Economic Cooperation and Development, 2019). In 2015, Alberta students ranked third highest in reading, second highest in science, and twelfth in math (Brochu, Deussing, Houme, & Chuy, 2016). Alberta is reputed as having a high quality education system because of these results.

Educators who participate in the study were selected through two methods of sampling: *convenience sampling* and *snowball sampling*. *Convenience sampling* is a method through which individuals are identified through availability or they volunteer to participate in a study (Mills & Gay, 2016). Individuals who identified themselves as participants were initially engaged through a blog created by the researcher and broadcasted through Facebook and Twitter. Teachers were offered an opportunity to enter their name for a draw for a \$50 gift card for Amazon upon completing the research survey. The collection of names for the draw occurred by using a second Qualtrics survey attached at the end of the original survey. The two surveys ran independently from one another so the anonymity of the participant was protected whether they decided to enter the draw or not. Those who became participants through the convenience sampling method were asked to recruit their colleagues and friends from their teacher community. An incentive of an entry for a draw for a \$75 gift card for Amazon was offered to teachers who enlisted their friends and colleagues' participation on Facebook and Twitter. The names for the second draw were collected using the second Qualtrics survey. Participants were asked to record the name and email of the individual who shared the survey with them (only if permission was

granted from the other party). In this regard, the sampling method identified as *snowball sampling* took into effect. *Snowball sampling* is a method where a select number of individuals participating in the study, identify additional participants until the sufficient number of participants are found (Mills & Gay, 2016).

The suitability of participants for the study was determined through demographic questions at the beginning of the questionnaire. The survey proceeded to the data collecting questions for those teachers who: 1) were currently employed with a Canadian school division, and 2) taught students within the K-12 range.

Demographic questions also asked participants to identify their role in their current school, as well as their teachers' convention designation. These questions were used to disaggregate the data during the analysis phase of the study and offered information about the area of the province the participants reside.

The participant survey consisted of seven demographic questions, 12 questions from the Basic Psychological Needs Satisfaction at Work (BPNS-W) scale, 16 questions from the Authentic Leadership Questionnaire (ALQ), and 22 questions from the Maslach Burnout Inventory (MBI) for Educators. The survey ended with one open-ended optional question: "Is there anything you would like to add about teacher burnout and your work experience?".

Of the original 459 participants, 17 (4%) began the demographic questions but did not complete the section, 15 (3%) completed the demographic questions but stopped at the BPNS-W scale, 32 (7%) respondents stopped at the ALQ questions, and 14 (3%) respondents stopped at the MBI questions. These 78 (17%) non-completers were removed from the dataset leaving 381 participants who completed the survey in

its entirety. Of these 381 participants, 29 (8%) answered ‘no’ to being a Canadian teacher, 5 (1%) did not have students within the K-12 range, and 12 (3%) worked less than 0.5 FTE. These 46 (12%) participants did not fulfill the requirements to participate in the study and therefore were prevented from continuing the survey, leaving 335 participants in the final research study.

Instruments

In order to find the correlations between authentic leadership, basic psychological needs at work, and burnout, quantitative data was collected per participant for all three factors. One instrument was selected for each factor in order to collect the numerical data.

Teacher burnout. Teacher burnout was measured using the Maslach Burnout Inventory for Educators. Maslach and Jackson (1981) developed the Maslach Burnout Inventory (MBI), which is a widely used instrument for measuring the three dimensions of burnout: *emotional exhaustion*, *depersonalization*, and *personal accomplishment*. The instrument has nine items to measure emotional exhaustion, five items to measure depersonalization, and eight items to measure personal accomplishment, for a total of 22 items. For each item, participants could choose 0 to 6 on a frequency scale which included the options *never* (0), *a few times a year or less* (1), *once a month or less* (2), *a few times a month* (3), *once a week* (4), *a few times a week* (5), and *every day* (6). The dimension labelled *emotional exhaustion* is a depletion of emotional resources to the point where the worker can no longer give of themselves at a psychological level (Maslach & Jackson, 1981). One example item is, “I feel emotionally drained from my work.” The second dimension of MBI is

depersonalization which is the development of negative, cynical attitudes towards one's clients. One example is, "I don't really care what happens to some students." Finally, *personal accomplishment* describes the tendency for workers to undervalue their work with others (Maslach & Jackson, 1981). An example item is, "I have accomplished many worthwhile things in this job."

Various psychometric analyses showed the scale has both high reliability and validity as a measure of burnout (Maslach & Jackson, 1981). Since its conception in the early 80s, the MBI has been developed into different versions for use in a wide variety of occupations. The MBI for educators (MBI-ES) was finalized in 1986. Two studies were conducted with teacher groups and validate this version of the MBI. Iwanicki and Schwab (1981) used 469 teachers from Massachusetts in their study on burnout. This research team reported Cronbach alpha estimates for emotional exhaustion at .90, depersonalization at .76, and personal accomplishment at .76. Another study by Gold (1984), provides further evidence of validation and reliability for the MBI-ES. Gold's (1984) study used 462 teachers from California and the reported Cronbach alpha estimates for this study were .88, .74, and .72 respectively.

Maslach and Leiter (2016) published in the fourth edition of the MBI Manual formulas for creating standardized (z) values so individuals could be classified according to their burnout pattern. Critical boundaries were set in order to accommodate the population norms of different groups. Once the mean and standard deviations for a population are found for each burnout dimension, the formulas in Table 6 can be used to identify the standardized values for high exhaustion, cynicism, and professional efficacy.

Table 6

Formulas to Determine z-Scores for The Dimensions of Burnout

Critical Boundary	Formula
High Exhaustion (Emotional Exhaustion)	$z = \text{Mean} + (\text{SD} * 0.5)$
High Cynicism (Depersonalization)	$z = \text{Mean} + (\text{SD} * 1.25)$
High Professional Efficacy (Personal Accomplishment)	$z = \text{Mean} + (\text{SD} * 0.10)$

The actual measurement of an individual in a population can be compared to the standardized value calculated and can be determined as either higher or lower than the value. Using the standardized values for each burnout dimension identifies a pattern of burnout for an individual. These patterns distinguish five burnout profiles. Table 7 indicates the profile names along with their burnout patterns. It is important to note the spaces on the table 8 where there is no indication of high or low, are noting dimensions which are irrelevant to a particular profile. These profiles were used during the data analysis phase.

Table 7

Burnout Profiles

Profile	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Engaged	Low	Low	High
Ineffective	-	-	Low
Overextended	High	-	-
Disengaged	-	High	-
Burnout	High	High	-

Psychological well-being at work. Although several instruments have been developed for the measurement of psychological well-being, the Basic Psychological Need Satisfaction at Work (BPNS-W) scale (Eriksson & Boman, 2018) seemed most fitting for this study to measure the satisfaction of autonomy, competence, and

relatedness. This instrument was originally developed with 21 items; however, the developers have recently published a shortened version containing only 12 items.

This shortened version has four items to measure autonomy, four items to measure competence, and four items to measure relatedness. For each item, participants can choose 0 to 6 on a frequency scale which included the options *not at all true* (1), *rarely true* (2), *sometimes but infrequently true* (3), *neutral* (4), *sometimes true* (5), *usually true* (6), and *very true* (7). The first basic psychological need is *autonomy*. This is a term to describe the freedom an individual feels in regards to their self-initiated behaviors (Deci & Ryan, 2000b). One example item is, “I am free to express my ideas and opinions on the job.” The second psychological need from BPNS-W is *competence* which is the feeling of effectiveness in one’s work when allowed to use personal skills toward challenging tasks (Deci & Ryan, 2000). One example is, “People at work tell me I am good at what I do.” Finally, *relatedness* is defined as the sense of belongingness and connectedness to other people or groups (Ryan & Deci, 2000b) An example item is, “I like the people I work with.”

This shortened version was validated using invariance testing for both the long and short scales. The shortened scale was also tested using a hierarchical regression analysis which indicated that each need made a unique contribution in anticipating psychological well-being (Eriksson & Boman, 2018).

Authentic leadership. The Authentic Leadership Questionnaire (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) was used to measure perceived authentic leadership by the participants. This instrument was developed in 2008 and has been used in many studies on authentic leadership. This instrument measures four

dimensions: *transparency*, *moral/ethical behavior*, *balanced processing*, and *self-awareness*. There are a total of 16 items in the ALQ. There are five items to measure transparency, four items to measure moral/ethical behavior, three items to measure balanced processing, and four items to measure self-awareness. For each item, participants can choose 0 to 4 on a frequency scale which included the options *not at all* (0), *once in a while* (1), *sometimes* (2), *fairly often* (3), and *frequently, if not always* (4). The dimension labelled *transparency* refers to the open and transparent way authentic leaders and followers exchange information with each other (Avolio & Gardner, 2005). One example item is, “My leader says exactly what he or she means.” The second dimension of ALQ is *moral/ethical behavior* which describes how a leader’s inner drive toward integrity is evident in their behavior (Walumbwa et al., 2008). One example is, “My leader makes decisions based on his or her core values.” The third dimension of ALQ is *balanced processing* which refers to a leader’s ability to gather information about situations from diverse perspectives so they may assess situations in a balanced way (Avolio & Gardner, 2005). An example item is, “My leader analyzes relevant data before coming to a decision.” The last dimension is *self-awareness*, which is having an understanding and acceptance of one’s true self including the strengths and weaknesses of the individual (Ilies et al., 2005). An example item is, “My leader seeks feedback to improve interactions with others.”

Results from a study by Randolph-Seng and Gardner (2013) indicated support for the validity of the ALQ. This research team conducted a study to investigate the connection between explicit and implicit self-esteem. The study included two measures of leader authenticity: authentic leader traits as measured by the ALQ and

perceived authenticity demonstrated in leader speeches. Scores from the ALQ were positively related to perceived leader authenticity providing support for the validity of the instrument.

Design & Procedures

Participating teachers filled out a survey which included questions from all three instruments used in the study: the MBI for Educators (Maslach & Jackson, 1981), the ALQ (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008), and the BPNS-W (Eriksson & Boman, 2018). A survey, created in Qualtrics, was readily available for teachers to access through their computer, laptop, tablet, or smartphone. In order to ensure the survey for this research was taken only once per respondent, the option *Prevent Ballot Box Stuffing* was enabled on the survey. This option placed a cookie in the participant's browser which restricted the user from retaking the survey on that browser.

The order in which participants answered the survey items from the instruments was taken into careful consideration. Beginning the survey with items regarding teachers' perceptions of their leader's actions seemed too leading. A more appropriate start to the survey was the more personal questions from the BPNS-W regarding the basic psychological needs being met at work. The questions from the ALQ came next as respondent fatigue would be fairly low at this point and items regarding their perceptions of their leader may require more thought and energy. Finally, the questions from the MBI-ES wrapped up the quantitative section of the survey. The final piece of data collection was the qualitative question, "Is there anything you would like to add about teacher burnout and your work experience?"

This question was optional. The process to elicit the target of 400 participants and gather the required numerical data for each key factor, occurred in three phases.

Phase one. The researcher posted a short article on the blog about teacher burnout which contained a link to the research survey. The article was short and offered readers general information about teacher burnout. The article discussed how teachers are more susceptible to burnout due to the constant interactions with other individuals all day long and how even the *best* of teachers can experience burnout. The article invited all Canadian teachers to take part in the survey, including those who might feel burned out, those who did *not* feel burned out, and all teachers in between. The article was written in an inclusive tone regarding who should fill out the survey (any teacher currently teaching in Canada) but also had a tone of urgency to entice teachers to help shed light on teacher burnout by filling out the survey. The article was void of any influencing information regarding teacher burnout, for example the hypotheses for the current study were not identified. The article was carefully reviewed by the researcher's committee chair, as well as two classmates, to assure that no leading information was offered to potential participants. Refer to Appendix A for the article on teacher burnout.

Also, a visual appeared with the article and was visible when the blog was posted to Facebook and Twitter. See Appendix B for the exact wording of the post on Facebook and Twitter. The photo used for the visual was also void of any leading information. Only the words *teacher burnout* appeared in capital letters across a lime green sign board, with the letter t of *burnout* tipped over. See Appendix C for the photo posted with the blog, and Facebook/Twitter posts. Although the survey was

open to all Canadian teachers, it was anticipated that most of the participants would be from Alberta since it is the province where the researcher resides and the initial contacts invited to take the survey were Alberta residents.

The article was posted on the morning of Sunday, October 6, 2019. This date and time were carefully selected. Dillman, Smyth, and Christian (2014) advised researchers that optimal timing for web surveys may vary depending on the study and the targeted population. School teachers are very busy individuals during their work week. A request to participate in a research survey midweek may be easily dismissed or forgotten. Teachers have time to engage in social media over weekends and may be inclined to act upon a request during their off-duty time. Saturdays are often filled with family activities or obligations; for this reason, Sunday, October 6, 2019 was selected. Also, this date is more than four weeks into the new school year and before any extended break in the school routine. Dillman and associates (2014) also explained when it comes to electronic invitations to surveys, there is a greater response rate in the morning likely because the request can be handled before the demands of the day begin. For this reason, the blog was broadcast at eight o'clock in the morning. There are 22 subscribers to the researcher's blog. These individuals had immediate access to the survey upon its posting.

In the morning, of that same day, the researcher also broadcasted the blog on Facebook and Twitter. The researcher has 77 Alberta teachers as contacts on Facebook, and 11 unique teacher contacts on Twitter.

Phase two. The number of surveys completed was monitored and recorded. Cook, Heath, and Thompson (2000) advised researchers using web surveys to make

multiple contacts with potential respondents, as it is one of the ways to elicit a greater response rate. For this reason, a second posting was scheduled. As per Dillman and colleagues' (2014) advice to consider the target population, the second posting occurred on Wednesday, October 9, 2019 at eight o'clock in the evening. In 2019, the Canadian Thanksgiving weekend was from October 12 to the 14. School divisions often schedule a professional development day on the Friday before the long weekend, setting a professional development date for October 11. It was hypothesized that teachers who did not engage with the initial posting on October 6 might engage with social media towards the end of their work week on October 9. Dillman and associates (2014) wrote about the importance of varying the content when engaging in multiple contacts with potential respondents. The posting write-up on October 9 was worded differently to appeal to different potential respondents. Refer to Appendix B for the wording of the second posting. Also, the researcher has 18 teacher contacts who are not on Facebook, Twitter, nor are they subscribers to the researcher's blog. These contacts were sent an email offering the same information as the Facebook and Twitter audiences. See Appendix D for a copy of the email.

Phase three. Once phase two survey completions slowed down and no new surveys were completed for more than 24 hours, phase three began. The first action was to compare the number of completed surveys with the number of participants expected from each geographical area, as outlined in Table 6. Any significant differences in the number of participants were noted. Next, an ad on Facebook was created to target potential participants in the geographical areas which required more responses. See Appendix E for details on all advertisement wording and dates. Also,

key contacts of the researcher who live in the underrepresented areas were enlisted using a third Facebook posting. Refer to Appendix B for the details of the post.

Figure 3 indicates the respondent activity over the course of the data collection period. Phase one, two, and three elicited 231, 117, and 111 respondents respectively.

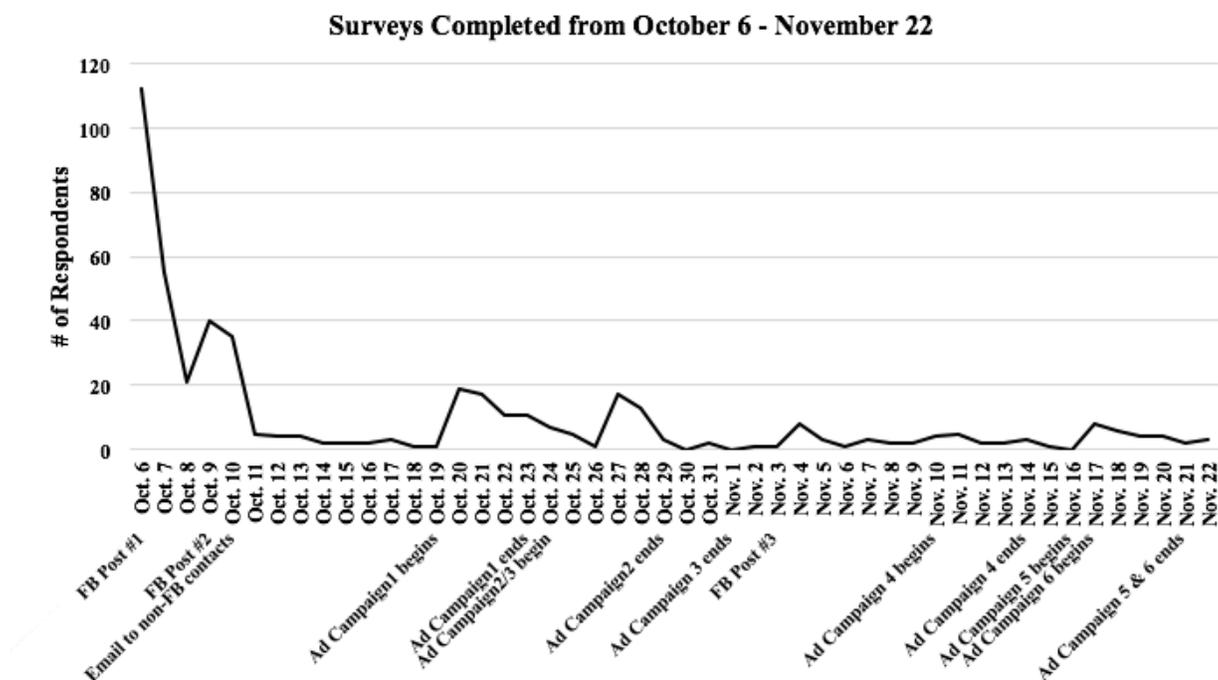


Figure 3. Surveys completed over the six-week data collection period.

Ethical Considerations

There were particular ethical considerations to conducting the present research. First, the Authentic Leadership Questionnaire (ALQ) may be considered to some individuals as a tool being used to evaluate the competence of administrators. In the province of Alberta, there is a strong teachers' union called the Alberta Teachers' Association (ATA) whose members include teachers and administrators in the province. The union has a code of conduct for its members. In relation to colleagues,

“the teacher criticizes the professional competence or professional reputation of another teacher only in confidence to proper officials and after the other teacher has been informed of the criticism, subject only to section 24 of the *Teaching Profession Act*”

(<https://www.teachers.ab.ca/TheTeachingProfession/ProfessionalConduct/Pages/CodeofProfessionalConduct.aspx>). The researcher submitted a research application form to the IRB on August 22, 2019 which explicitly laid out the questions of the survey with a note regarding a possible ethical conflict regarding the questions on the ALQ and the Professional Code of Conduct from the Alberta Teachers' Association. A closer look at the intent of the ALQ and the nature of the questionnaire items was laid out in the application. It was noted that when a teacher answers items on the ALQ, these items are measuring the teacher's *perspective* regarding the behavior of their leader and is not evaluative in nature as the teacher's perspective is not necessarily *true*. Other important points to note are, the behavior of a leader may be perceived as authentic by one teacher but not by another. Also, nowhere in the Leadership Quality Standards for Alberta administrators does it state that being an authentic leader is a required quality or leadership style necessary to an administrative job. In other words, authentic leadership behaviors do not equate to competence in a leadership role.

During the initial planning phase of the methodology, the researcher contacted a representative from the Alberta Teachers' Association regarding the ethics of the ALQ questions. At that time, it was determined that there was no breach in the code of conduct. On August 26, 2019, IRB approval was given to the researcher to move forward with the research plan.

Another measure used to protect the anonymity of participants was to utilize the *Anonymize Response* selection in the Qualtrics options menu. This option assured the survey did not record any personal information as the participant completes the survey and any contact association is removed. All data were reported in the aggregate with no personally identifiable data reported. The data were stored in a password-protected laptop and a password-protected folder. At the conclusion of the study, all links between the data and the participants were destroyed.

Role of the Researcher

I have been teaching in elementary schools since 1994. As I look back on my 25 years as an educator, I see the different phases of my career. The first seven years, I was the young energetic teacher who could learn the craft of teaching without the distraction of raising a family. In the next phase, I became the teacher whose focus shifted from career to motherhood. This stage was approximately eight years when I was either on maternity leave with one of my three children or working part-time. Next, I was the teacher who needed to go back to full-time work in order to help the financial health of my family. Changes to my work environment occurred throughout these phases. My teaching assignments shifted every few years, as did my administrators, and some of the staff I worked closely with. The most recent phase occurred whilst dealing with the demands of a young family. These stages in a teaching career are similar to many individuals in the field of education. The participants in my research study are walking along the same road I have travelled. To this research I bring my lived experience.

It is this lived experience which has guided me to understand how to organize my data. For example, the years of teaching experience from the demographic questions can be grouped in many different ways. My own experiences tell me that the first year of teaching is unique as new teachers are on such a steep learning curve, and for this reason would be in a category of their own. The next categories were chosen based on the different stages of mastery teaching. Teachers with one to five years of experience continue to work along the learning curve of their craft, while those who have between six and ten years of experience are working toward mastery level. According to Gladwell (2008), mastery in any field requires approximately 10,000 hours of practice. When calculating the number of years teachers would need to work in order to reach 10,000 hours of teaching, it equates to approximately ten years. Therefore, a category for teachers with 11 to 20 years of experience was created for those who had reached mastery level, and those with more than 20 years are considered master teachers who are heading toward retirement.

I also used my lived experience to guide me in selecting the best time to post the article on burnout to social media for data collection. As a teacher I understand how busy the work week is for educators. Weekends are generally used for family activities and to catch our breath. I selected a Sunday morning for the first post and then watched for a pattern in the number of respondents as days and weeks passed. A trend can be seen with more respondents on weekends and specifically on Sundays. See Figure 3 for the respondent activity over the course of the data collection.

I also want to highlight that my interest in teacher burnout began during the 2017-18 school year when I was seconded to the Wellness Team within my school

division. As part of this team, I worked with teachers and students from ten different schools on various health and wellness topics which included, positive teacher-student relationships, attachment theory, teacher burnout, self-care, and mindfulness. My role was to be a voice for the elementary teachers and students as presentations and lessons were prepared for each school. In the months of January and February, the team visited all ten schools and presented to the staffs on teacher burnout and compassion fatigue. We were shocked by the number of individuals who approached us after our teacher presentations to thank us for bringing awareness to the topic of teacher burnout. Some of these teachers had tears in their eyes as they spoke to us. A couple teachers I knew personally. They were top educators and had clearly been affected by burnout in some way. This created an urgency in me to understand the phenomenon of burnout better.

The presentation the Wellness team created for the staffs had brought forward our own stories of burnout. Although I did not recognize the signs and symptoms of burnout at the time, there was a particular year I likely suffered burnout myself. That difficult year helped me recognize the valuable lens that self-determination theory can be in the research on burnout. My own story involves the erosion of feelings of autonomy, competence, and relatedness, which led me to recognize self-determination theory as a strong framework for this research. My story also includes a perceived view of lack of support from my administration. This experience has guided me to look more closely at the role leadership might play in the burnout process.

My own story of burnout also gave me insight to the potential timing of burnout as it aligns with the school calendar. Since this experience occurred gradually over time, I do not know the exact start or end of my own burnout experience;

however, I understand this time included a period of stress which peaked with a physical ailment. I had a particularly stressful school year and by mid-October of the following school year, I began experiencing chronic back pain which lasted for several months. This experience led me to understand teacher burnout can occur at any time during the school year. As a researcher I was restricted to collecting my data during the fall months due to the schedule of my doctoral program; however, I was confident the beginning of the school year would still offer me a rich data collection opportunity.

I also recognize my personal experiences create a potential bias for my research. It is important to note the quantitative nature of this study will be a protection in itself against bias. The very nature of numerical data is static so no matter what the bias, the numerical data cannot be manipulated in any way. The data to carefully consider are the qualitative data gathered from participants. The final question of the survey asks participants to write anything else they would like to add regarding burnout and their work experience. Although this question was optional on the survey, 45% of the respondents wrote a response. My intention was to keep my biases aside by relying on self-determination theory as a lens and allow it to be my compass for the findings of the study. This theory is thoroughly researched and widely accepted across many disciplines. It is a solid foundation to set this research. The integrity of this study was maintained through the quantitative data collected and through the use of SDT as a lens for the qualitative data.

Data Analysis

The data from the research surveys of all participants were entered into Statistical Package for Social Sciences (SPSS). Descriptive statistics were found for

the variables on the demographic questions as well as variables from the key factors: teacher burnout, psychological well-being at work, and authentic leadership. Next, correlational tests were conducted to find the strength and significance of the relationships between the different dimensions of teacher burnout, well-being at work, and authentic leadership.

To gain a greater understanding of the participants in the study, two subgroups were created: *those who are exhausted* and *those who are not*. An independent samples *t*-test was conducted to examine a possible difference between the variables for these two subgroups. Further correlational analysis was conducted on each subgroup to examine the coefficients between the variables.

A second independent samples *t*-test was conducted to understand the differences between two other subgroups: *those who answered the final question* and *those who did not*. This analysis shed light on the differences between participants who chose to add their voice to the qualitative data and those who did not.

Coding for the data collected from the qualitative question is reported at the end of the chapter. A key strategy for analyzing qualitative data is through classifying or coding. Mills and Gay (2015) describe this process as the categorization of concepts within the qualitative piece and the identifying of themes for concepts. Participant comments were collected at the end of the survey and were coded using the themes from the survey questions. Miles and colleagues (2014) described this strategy as provisional coding which often uses a start list of codes created from what research suggests might be found in the data. For example, the Basic Psychological Needs Satisfaction (BPNS) at work scale had questions which measured autonomy,

competence, and relatedness, therefore these three basic psychological needs were used as themes when coding all the participant comments. Other themes which emerged were also noted and used.

A second cycle of coding was done on the participant comments and the technique known as *sub-coding* was used. Miles and his team (2014) described sub-coding as a “second-order tag assigned after a primary code to detail or enrich the entry” (p. 72).

Summary

The purpose of this quantitative correlational study was to develop a conceptual framework which outlines a comprehensive structure for teacher burnout and its antithesis. The study targeted educators who are currently working in Alberta with students in the K-12 range. Teachers were invited to participate in the research study through a blog created by the researcher and broadcast through Facebook and Twitter. Phase one and two elicited participants through the researcher’s contacts on the blog, Facebook, and Twitter. Phase three enlisted participants from outside the researcher’s circle through shared social media postings and Facebook advertisements. The target number for the sample was 400 teachers. A total of 459 teachers engaged with the research survey; however, once the suitability of participants was taken into account, the final number of participants in the study was 335.

Participating teachers filled out a survey which included questions from all three instruments being used in the study: the MBI for Educators (Maslach & Jackson, 1981), the ALQ (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008), and the BPNS-W (Eriksson & Boman, 2018). The survey was created in Qualtrics and was

readily available for teachers to access through their computer, laptop, tablet, or smartphone. All data from the participant surveys was entered into SPSS for analysis. Results of the analysis is reported in Chapter 4.

Chapter 4: Results

The purpose of this quantitative study was to develop a conceptual framework which outlines a comprehensive structure for teacher burnout and its antithesis. The present study looks at the relationship between teacher burnout, psychological needs at work, and teachers' perception of authentic leadership, to build this framework of understanding. The analyses are organized by three hypotheses: a) There is a positive relationship between authentic leadership and psychological well-being at work, b) There is a negative relationship between teachers' psychological well-being at work and teacher burnout, c) There is a negative relationship between teacher burnout and authentic leadership. Reporting of the findings begin with descriptive statistics of the participants. These statistics include years of teaching experience, teachers' position or assignment, full-time work equivalence, and location in Canada and/or location in the province of Alberta. Next, the descriptive statistics for the quantitative data is reported, followed by the findings for each hypothesis. Finally, the chapter concludes with the analysis of data collected from one qualitative question which appears at the end of the research survey.

Demographic of Participants

Any Canadian teacher working with students in the Kindergarten to Grade 12 range was eligible to participate in the study. There was a particular interest in Alberta teachers because the researcher resides in the province. Also, Alberta is reputed as having a high-quality education system evidenced by PISA scores published in the last 10 years (Organization for Economic Cooperation and Development, 2019). Information on teacher burnout within the Alberta education system may be important

for the province as well as other provincial systems throughout the county. Table 8 indicates the number of participants from Canada by province including the percentages in the sample.

Table 8

Participants by Province

Province	<i>N</i>	%
Alberta	299	89.3
British Columbia	7	2.1
Manitoba	1	0.3
New Brunswick	2	0.6
Newfoundland	1	0.3
Nova Scotia	1	0.3
Ontario	20	6.0
Prince Edward Island	1	0.3
Saskatchewan	3	0.9
Total	335	100.0

Most of the participants were from the province of Alberta. Table 9 indicates where the Alberta teacher participants reside by their teachers' convention designation. Some geographical areas are represented as per the population of teachers in Alberta. For example, the expected percentage of teachers in Central Alberta is seven and exactly seven percent of the sample was from that area. Some geographical areas are over-represented. Greater Edmonton and North Central were expected to have 22% and 16%, respectively; however, their percentages of the sample are 36% and 23% respectively. One of the reasons for the over-representation in these two areas is the use of social media to circulate the research survey. The researcher works in the North Central area but resides in the Greater Edmonton area so several contacts on social media are from these two areas. Table 8 includes the expected percentage of the

sample from each convention. The sample is a reasonable representation of Alberta teachers according to their geographic areas.

Table 9

Alberta Teacher Participants in the Study Compared to Expected Numbers

Alberta Teachers' Conventions	<i>n</i>	%	Expected %
Calgary City Teachers' Convention	56	19	27
Central Alberta Teachers' Convention	20	7	7
Endless Skies Teachers' Convention	6	2	6
Greater Edmonton Teachers' Convention	107	36	22
Mighty Peace Teachers' Convention	2	1	5
North Central Teachers' Convention	70	23	16
Palliser District Teachers' Convention	7	2	8
Southeastern Teachers' Convention	2	1	4
South West Teachers' Convention	13	4	5
Other	16	5	0
Total	299	100	100

Participants were asked to indicate their number of years of teaching. Table 10 indicates the number of participants in each category for years of teaching. The majority of respondents had 11 to 20 years of teaching experience. Only seven participants were first-year teachers.

Table 10

Years of Experience of Participants

Years of Experience	<i>N</i>	%
Less than 1 year	7	2
1 to 5 years	58	17
6 to 10 years	70	21
11 to 20 years	123	37
More than 20 years	77	23
Total	335	100

All participants instructed students who were in the Kindergarten to Grade 12 range. Table 11 shows the job title or assignment the participants held at the time of the survey. Some participants indicated they held a specialized position. The question on the survey had very specific examples of what the specialized positions were. The examples given were counsellor, learning coach, special education teacher, or coordinator. Participants were also offered *other* as a choice if they did not feel any of the teacher positions described their assignment. Those who chose *other* had a space to indicate their job title. Those participants who chose *other* indicated they were either administrators or music teachers. Administrators were placed in the *specialized position* category and music teachers are shown in a category of their own. Also, some participants indicated their assignment was across multiple grade levels. For example, a participant might teach students at the elementary and middle school level, or at the middle school and high school level. Table 11 indicates that approximately 80% of participants are classroom teachers and approximately 20% hold specialized positions within the school.

Table 11

Teaching Position or Assignment of Participants

Position or Assignment	<i>N</i>	%
K-4 Teacher	116	35
5-8 Teacher	75	22
9-12 Teacher	40	12
Multiple Grade Levels	24	7
Music Teacher	18	5
Specialized Position	62	19
Total	335	100

Participants indicated their full-time equivalent in the demographic questions.

The study was interested in surveying teachers who were at least 0.5 full-time equivalent or greater. Table 12 indicates most of the participants work full-time.

Table 12

Full-Time Equivalence of Participants

Full-Time Equivalence	<i>n</i>	%
0.50-0.69 FTE	20	6
0.70-0.99 FTE	21	6
1.0 FTE	294	88
Total	335	100

Descriptive Statistics

Quantitative data were collected during the survey using three different instruments. The Maslach Burnout Inventory was used to collect measurements on the three dimensions of burnout: *emotional exhaustion*, *depersonalization*, and *personal accomplishment*. The Basic Psychological Needs Satisfaction at Work scale was used to gather a measurement of the three basic psychological needs from the self-determination theory: *autonomy*, *competence*, and *relatedness*. Finally, the Authentic Leadership Questionnaire was used to collect measurements on the four dimensions of

perceived authentic leadership: *transparency, moral/ethical, balanced processing*, and *self-awareness*. Table 13 indicates the descriptive statistics for all quantitative measures gathered during the survey. All three instruments measure specific dimensions and no instrument used an overall score for analysis purposes. It is important to note some differences between the scales. The MBI maximums are at 6.00 whereas the BPNS-W scale maximums are at 28.00 and ALQ are only 4.00. The mean and standard deviations for these three different instruments vary greatly due to this difference.

Table 13

Descriptive Statistics for Quantitative Measures

	Mean	SD	Minimum	Maximum
Maslach Burnout Inventory				
EE	3.80	1.30	0.78	6.00
DP	1.69	1.25	0.00	5.60
PA	4.74	0.80	1.38	6.00
BPNS-W scale				
Autonomy	19.48	4.83	4.00	28.00
Competence	20.47	4.20	8.00	28.00
Relatedness	22.30	3.93	8.00	28.00
ALQ				
Transparency	2.40	0.99	0.00	4.00
Moral/Ethical	2.60	0.99	0.00	4.00
Balanced Processing	2.16	1.05	0.00	4.00
Self-awareness	2.06	1.18	0.00	4.00

Note. $N = 335$. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment, BPNS-W = Basic Psychological Need Satisfaction at Work, ALQ = Authentic Leadership Questionnaire.

Correlational Analysis

The current correlational study focused on three hypotheses: a) There is a negative relationship between teacher burnout and teachers' psychological well-being at work, b) There is a positive relationship between authentic leadership and

psychological well-being at work, c) There is a negative relationship between teacher burnout and authentic leadership.

Correlational analysis called *Pearson's r* was the method used to understand these relationships. Correlational coefficients are the numerical values from the analysis. These values indicate whether a high result in one variable is related to a high result in another variable (Muijs, 2011). Coefficient values vary between -1 and +1 where a zero indicates no relationship between two variables (Muijs, 2011). Mills and Gay (2016) help us understand *Pearson's r* by explaining that coefficients can be positive, where a high result in one variable is associated with a high result in another variable, or coefficients can be negative indicating a high result in one variable is associated with a low result in another. It is important to note correlational coefficients determine the relationship and not the cause of one variable to another. Correlational analysis was run to find the coefficients for each hypothesis.

Relationship between Authentic Leadership and Psychological Well-Being.

Table 14 indicates positive relationships between the dimensions of authentic leadership and the three basic psychological needs: *autonomy*, *competence*, and *relatedness*. The relationships between autonomy and competence, and the four dimensions of AL are considered moderate. These coefficients indicate evidence for the hypothesis of a positive relationship and are moderately strong, with R^2 values ranging from 16% to 30%. It appears that when autonomy and competence are low, the dimensions of authentic leadership will be comparatively low as well.

Table 14

Correlational Coefficients for Variables Representing Basic Psychological Needs and Authentic Leadership

Variable	1.	2.	3.	4.	5.	6.	7.
BPNS-W scale							
1. Autonomy	-						
2. Competence	0.64*	-					
3. Relatedness	0.48*	0.47*	-				
ALQ							
4. Transparency	0.54*	0.43*	0.24*	-			
5. Moral/Ethical	0.55*	0.42*	0.26*	0.87*	-		
6. Balanced Processing	0.50*	0.40*	0.22*	0.82*	0.83*		
7. Self-Awareness	0.53*	0.41*	0.23*	0.85*	0.84*	0.87*	-

Note. $N = 335$. * $p < .01$. BPNS-W = Basic Psychological Need Satisfaction at Work, ALQ = Authentic Leadership Questionnaire.

Relationship between Teacher Burnout and Teachers' Psychological Well-

Being. Table 15 indicates negative relationships between two dimensions of burnout and the three basic psychological needs: *autonomy*, *competence*, and *relatedness*. The dimension of personal accomplishment, as expected, has a positive relationship between these basic psychological needs due to the nature of the dimension. Important coefficients to note are between the dimensions of burnout and autonomy and competence. These coefficients indicate evidence for the hypothesis of a negative relationship between the dimensions of teacher burnout and teachers' psychological well-being and are modestly strong, with R^2 values ranging from 11% to 18%. It appears that when autonomy and competence are low, the dimensions of burnout are comparatively high.

Table 15

Correlational Coefficients for Variables Representing Basic Psychological Needs and Teacher Burnout

Variable	1.	2.	3.	4.	5.	6.
BPNS-W scale						
1. Autonomy	-					
2. Competence	0.64*	-				
3. Relatedness	0.48*	0.47*	-			
MBI						
4. EE	-0.42*	-0.40*	-0.25*	-		
5. DP	-0.33*	-0.40*	-0.21*	0.61*	-	
6. PA	0.34*	0.48*	0.28*	-0.38*	-0.41*	-

Note. $N = 335$. $*p < .01$. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment. BPNS-W = Basic Psychological Need Satisfaction at Work, MBI = Maslach Burnout Inventory.

Relationship between Teacher Burnout and Authentic Leadership. Table

16 indicates negative relationships between two dimensions of burnout and the four dimensions of authentic leadership: *transparency*, *moral/ethical*, *balanced processing*, and *self-awareness*. The dimension of personal accomplishment, as expected, has a positive relationship between these basic psychological needs due to the nature of the dimension. The relationships between the dimensions of burnout and the four dimensions of authentic leadership are weak. These correlations indicate evidence for the hypothesis of a negative relationship between the dimensions of teacher burnout and authentic leadership; however, the coefficients are considered weak with R^2 values ranging from 3% to 6%. It appears that when perceived authentic leadership characteristics are high, the dimensions of burnout are not strongly evidenced to be comparatively low.

Table 16

Correlational Coefficients for Variables Representing Teacher Burnout and Authentic Leadership

Variable	1.	2.	3.	4.	5.	6.	7.
Maslach Burnout Inventory							
1. EE	-						
2. DP	0.61*	-					
3. PA	-0.38*	-0.41*	-				
ALQ							
4. Transparency	-0.23*	-0.21*	0.18*	-			
5. Moral/Ethical	-0.23*	-0.18*	0.20*	0.87*	-		
6. Balanced Processing	-0.22*	-0.17*	0.16*	0.82*	0.83*		
7. Self-Awareness	-0.24*	-0.21*	0.18*	0.85*	0.84*	0.87*	-

Note. $N = 335$. $*p < .01$. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment. ALQ = Authentic Leadership Questionnaire.

Demographics of Participants According to Burnout Profiles

Maslach and Leiter (2016) published in the fourth edition of the MBI Manual formulas for creating standardized (z) values so individuals could be classified according to their burnout pattern. Using the standardized values for each burnout dimension identifies a pattern of burnout. These patterns distinguish five burnout profiles: *engaged*, *ineffective*, *overextended*, *disengaged*, and *burnout*. Table 17 indicates the burnout profiles of all participants in the study. Those identified as *engaged* made up the largest portion of the sample. There were 134 (40%) who were considered *engaged* and 33 (10%) who were identified as *burned out*.

Table 17

Burnout Profiles of Participants

Profiles	<i>n</i>	%
Engaged	134	40
Ineffective	74	22
Overextended	87	26
Disengaged	7	2
Burnout	33	10
Total	335	100

Table 18 indicates the burnout profiles of the participants and identifies their teaching assignments at the time of the study. It is important to note the two groups who were most burned out were those teachers whose students were in the grade five to eight range and those teachers whose students were in the grade nine to twelve range. Also worth noting is that music teachers who participated in the study were not burned out. The teachers whose students ranged from kindergarten to grade four were the most overextended group at the time of the survey.

Table 18

Participant Burnout Profiles and Teaching Assignments

Profiles	K-4 Teacher		5-8 Teacher		9-12 Teacher		Multiple Grade Levels		Music Teacher		Specialized Position	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Engaged	47	41	23	30	12	30	12	50	11	61	29	47
Ineffective	23	20	19	25	12	30	4	17	4	22	12	18
Overextended	38	32	20	27	8	20	5	21	2	11	14	23
Disengaged	2	2	2	3	1	3	0	0	1	6	1	2
Burned Out	6	5	11	15	7	17	3	12	0	0	6	10
Total	116	100	75	100	40	100	24	100	18	100	62	100

Table 19 indicates the burnout profiles for the participants and identifies their years of experience at the time of the study. It is important to note the teachers with six

to ten years of teaching experience were the most burned out group according to years of experience. Also worth noting is that first-year teachers who participated in the study were not burned out. The teachers with six to ten years of experience were also the most overextended group at the time of the survey.

Table 19

Participant Burnout Profiles and Years of Teaching Experience

Profiles	Less than 1 Year		1 to 5 Years		6 to 10 Years		11 to 20 Years		More than 20 Years	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Engaged	3	43	29	50	21	30	52	42	29	38
Ineffective	3	43	12	21	17	24	26	21	16	21
Overextended	1	14	12	21	22	32	31	25	21	27
Disengaged	0	0	1	2	0	0	2	2	4	5
Burned Out	0	0	4	8	10	14	12	10	7	9
Total	7	100	58	100	70	100	123	100	77	100

Understanding Differences in Data by Those Categorized as Exhausted

The weak correlational coefficients between teacher burnout and authentic leadership prompted further analysis of the data. Since emotional exhaustion is the key dimension of burnout, this single dimension was used to create two subgroups: *those who were exhausted* and *those who were not*.

Table 20 identifies the number of participants for each profile and sorts them by exhaustion. Since the standardized *z* value for exhaustion is $z = \text{Mean} + (\text{SD} * 0.5)$, the critical boundary equated to 4.45 using a mean of 3.80 and a standard deviation of 1.30. Any participants whose exhaustion score exceeded 4.45 was considered exhausted. Table 20 indicates the number of individuals from each burnout profile and sorts them into the new subgroups.

Table 20
Subgroups Created According to Burnout Profiles

Burnout Profile	Those Who Are Exhausted		Those Who Are Not Exhausted	
	<i>n</i>	%	<i>n</i>	%
Engaged	0	0	134	40
Ineffective	0	0	74	22
Disengaged	0	0	7	2
Overextended	87	26	0	0
Burnout	33	10	0	0
Total	120	36	215	64

Note. *N* = 335.

Table 21 displays the means and standard deviations for participants in the survey who were reported as *exhausted* or *not exhausted* according to their measurement of emotional exhaustion on the Maslach Burnout Inventory. An independent samples *t*-test revealed that those who were exhausted appear to be significantly different in every quantitative variable when compared to those who were not exhausted.

Table 21

Difference Between Those Who Were Exhausted and Those Who Were Not

	Exhausted		Not Exhausted		<i>df</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Maslach Burnout Inventory							
EE	5.20	0.43	3.02	0.91	324.81	-29.71	<0.01
DP	2.57	1.26	1.20	0.94	193.55	-10.39	<0.01
PA	4.41	0.79	4.92	0.74	333.00	5.90	<0.01
BPNS-W scale							
Autonomy	17.12	5.06	20.80	4.17	209.53	6.80	<0.01
Competence	18.25	4.10	21.72	3.71	333.00	7.89	<0.01
Relatedness	21.08	4.45	22.97	3.45	199.69	4.03	<0.01
ALQ							
Transparency	2.15	0.99	2.54	0.96	333.00	3.57	<0.01
Moral/Ethical	2.36	1.01	2.73	0.96	333.00	3.36	<0.01
Balanced Process	1.89	1.11	2.30	0.99	333.00	3.53	<0.01
Self-Awareness	1.77	1.19	2.22	1.15	333.00	3.40	<0.01

Note. *N* = 335. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment. BPNS-W = Basic Psychological Need Satisfaction at Work, ALQ = Authentic Leadership Questionnaire.

Since all the variables are significantly different between *those who were exhausted* and *those who were not*, a correlational analysis was run to understand the relationships between the variables for *those who were exhausted*. Table 22 displays the correlational coefficients for all the quantitative variables for this subgroup. The strongest relationships in the table are between the dimensions of authentic leadership. Also noteworthy is the relationship between autonomy and all the dimensions of authentic leadership which is moderately strong. When comparing the coefficients between the exhausted group and the whole group, only two coefficients are stronger for the exhausted group. Those coefficients are between autonomy and balanced processing ($r = 0.52$) and autonomy and self-awareness ($r = 0.57$).

Table 22

Correlational Coefficients for Teacher Burnout Dimensions, Psychological Needs, and Authentic Leadership for Those Who Were Exhausted

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.
Maslach Burnout Inventory									
1. EE	-								
2. DP	0.24**	-							
3. PA	-0.26**	-0.28**	-						
BPNS-W scale									
4. Autonomy	-0.35**	-0.20*	0.30**	-					
5. Competence	-0.10	-0.22*	0.42**	0.49**	-				
6. Relatedness	-0.17	-0.16	0.26**	0.40**	0.44**	-			
ALQ									
7. TR	-0.06	-0.10	0.04	0.52**	0.31**	0.12	-		
8. M/E	-0.14	-0.08	0.08	0.51**	0.28**	0.17	0.85**	-	
9. BP	-0.06	-0.08	0.03	0.52**	0.35**	0.18	0.83**	0.83**	-
10. SA	-0.13	-0.15	0.00	0.57**	0.32**	0.16	0.85**	0.85**	0.85**

Note. $n = 120$. ** $p < .01$. * $p < .05$. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment, TR = Transparency, M/E = Moral/Ethical, BP = Balanced Processing, SA = Self-Awareness, BPNS-W = Basic Psychological Need Satisfaction at Work, ALQ = Authentic Leadership Questionnaire.

It is equally important to understand the subgroup with individuals *who were not exhausted*. A correlational analysis was run to understand the relationships between the variables for this subgroup. Table 23 displays the correlational coefficients for all the quantitative variables for *those who were not exhausted*. The strongest relationships for this second subgroup are among the dimensions of authentic leadership. It is also important to note, the relationship between autonomy and all the dimensions of authentic leadership are moderately strong. The relationships between competence and the authentic leadership dimensions are also noteworthy. These coefficients are moderate. When comparing the coefficients between the non-exhausted group and the whole group, two coefficients are comparatively different. Those coefficients are between competence and transparency ($r = 0.44$) and competence and moral/ethical ($r = 0.45$).

Table 23

Correlational Coefficients for Teacher Burnout Dimensions, Psychological Needs, and Authentic Leadership for Those Who Were Not Exhausted

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.
Maslach Burnout Inventory									
1. EE	-								
2. DP	0.46**	-							
3. PA	-0.25**	-0.33**	-						
BPNS-W scale									
4. Autonomy	-0.21**	-0.14*	0.24**	-					
5. Competence	-0.18**	-0.28**	0.39**	0.65**	-				
6. Relatedness	-0.10	-0.06	0.14**	0.46**	0.42**	-			
ALQ									
7. TR	-0.16*	-0.15*	0.04	0.52**	0.44**	0.27**	-		
8. M/E	-0.17*	-0.11	0.19**	0.54**	0.45**	0.27**	0.87**	-	
9. BP	-0.14*	-0.08	0.20**	0.43**	0.37**	0.19**	0.80**	0.82**	-
10. SA	-0.17*	-0.11	0.17*	0.47**	0.40**	0.22**	0.85**	0.83**	0.87**

Note. $n = 215$. ** $p < .01$. * $p < .05$. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment, TR = Transparency, M/E = Moral/Ethical, BP = Balanced Processing, SA = Self-Awareness, BPNS-W = Basic Psychological Need Satisfaction at Work, ALQ = Authentic Leadership Questionnaire.

Qualitative Analysis of Final Survey Question

Out of 335 participants, 151 (45%) answered the open-ended qualitative question at the end of the survey. This created two distinct subgroups in the dataset. *Those who answered the final question ($n = 151$) and those who did not ($n = 184$).*

The 151 responses were sorted using a descriptive coding technique in order to understand the individuals who provided qualitative feedback. Descriptive coding is a method of allocating labels to qualitative data to describe what the general topic of a passage is (Miles et al., 2014). The labels are generally a word or short phrase which contains appropriate nouns relating to the data (Miles et al., 2014). The first category is described as those individuals who wrote about their own burnout story. These responses used key words from Maslach's dimensions of burnout like "exhausting", "draining", "undervalued", "demoralizing", or talked about leaving the profession.

These responses also used I statements indicating these experiences as personal burnout stories. The second category was for individuals who used I statements but described their work experience as rewarding. These responses used words like “love”, “fulfilling”, or “rewarding”. The third category is responses where the writer describes teaching as rewarding, but also “draining” or “exhausting” indicating the experience of burnout. The fourth category is for participants who spoke generally about burnout. They do not use I statements but write about their observations regarding burnout. Finally, the fifth category is for responses which neglect to use the word burnout and instead articulate details about a work experience. An example of each category can be found in Table 24.

The participant comments were sorted into five categories. As Table 24 indicates, the teachers who participated in the qualitative section of the survey were not just those who experienced burnout. Although 41 (27%) participants shared personal stories about burnout, the majority of individuals who offered a written response were those who had a general comment about their work experience. There were 60 (40%) participants who wrote a general comment about their work experience.

Table 24

Number of Participants in Each Qualitative Comment Category

Category	Participant comment example	<i>n</i>	%
Personal burnout story	“The complete lack of balance between needs and supports provided plays a significant role in my feelings of burnout.”	41	27
Rewarding teaching story	“I love teaching, but the after hours workload is huge. I have taught over 30 years and it is still a great deal of work. That being said, I know how witty each new class it seems like a new job.”	1	0
Burnout and rewarding story	“It’s discouraging that a job I love so much is so exhausting and likely not sustainable.”	23	16
General comment about burnout	“There are professional development sessions that help with teacher burnout, as well as an opportunity to speak with a professional counselor if needed. That helps.”	26	17
General comment about work experience	“Everyday there are more and more expectations put on our plate. Our jobs never end.”	60	40
Total		151	100

Burnout Profiles. The participants in the current study were classified by burnout patterns to better understand the sample of teachers who took part in the survey. Table 25 indicates the participants according to their burnout profiles and also identifies the number of individuals in each classification who did and did not answer the final question. There are participants from each classification who answered the final question in the survey which aligns with the qualitative coding found in Table 24.

Table 25

Participants According to Burnout Profiles

	Total		Engaged		Ineffective		Overextended		Disengaged		Burnout	
	<i>n</i>	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
All Respondents	335	134	40	74	22	87	26	7	2	33	10	
Those Who Answered Final Question	151	60	40	29	19	40	26	5	3	17	11	
Those Who Did Not	184	74	40	45	25	47	26	2	1	16	9	

It is also important to note the demographics of those who answered the final question. Figure 4 indicates the participants who answered the final question by teaching assignment and years of teaching. Out of the 151 participants who answered the final question, the largest representative group were those teachers whose students were from the kindergarten to grade four range. There were a total of 59 (39%) K-4 teachers who answered the question. Also important to note, there were no first year teachers who answered the final question.

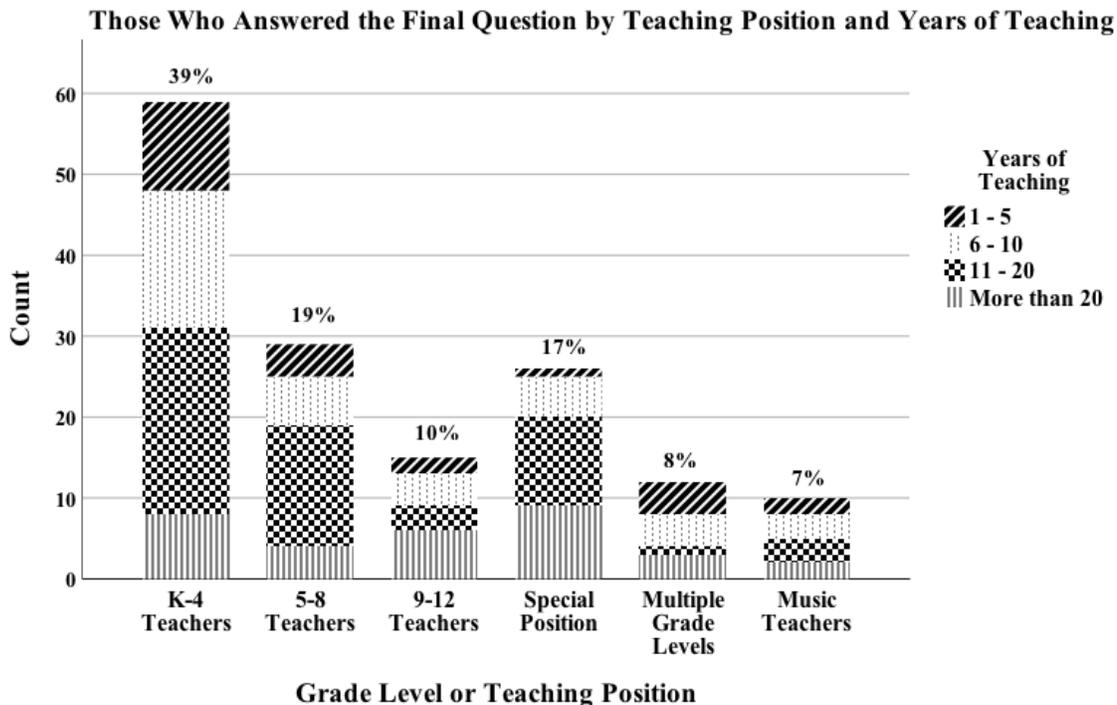


Figure 4. Those who answered the final question by teaching position and years of teaching.

Table 26 indicates the teaching assignments and years of teaching for those participants who answered the final question. Teachers whose students were in the kindergarten to grade four range represented the largest group of those who answered the final question. Also, those participants who taught for 11 to 20 years represented the largest representative group in terms of years of experience.

Table 26

Those Who Answered the Final Question by Teaching Position and Years of Teaching

Years of Teaching	K-4 Teacher		5-8 Teacher		9-12 Teacher		Multiple Grade Levels		Music Teacher		Specialized Position	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Less than 1	0	0	0	0	0	0	0	0	0	0	0	0
1 to 5 Years	11	19	4	14	2	13	4	33	2	20	1	4
6 to 10 Years	17	29	6	21	4	27	4	33	3	30	5	19
11 to 20 Years	23	39	15	51	3	20	1	9	3	30	11	42
More than 20	8	13	4	14	6	40	3	25	2	20	9	35
Total	59	100	29	100	15	100	12	100	10	100	26	100

An independent *t*-test was conducted to understand further the differences between *those who answered the final question* and *those who did not*. Table 27 displays the means and standard deviations for all variables collected from participants in the survey. The *t*-test revealed that those who answered the final question were more burned out than those who did not answer the question by a statistically significant amount, $t(333) = -2.08, p < .05$. Only one statistically different variable was found between these two subgroups. That variable was emotional exhaustion, the main dimension of burnout.

Table 27

Difference Between Those Who Answered Final Question and Those Who Did Not

	Answered Question		Did Not Answer Question		<i>df</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Maslach Burnout Inventory							
EE	4.00	1.26	3.67	1.33	333.00	-2.08	0.04*
DP	1.77	1.32	1.62	1.20	333.00	-1.08	0.28
PA	4.73	0.82	4.75	0.78	333.00	0.25	0.80
BPNS-W scale							
Autonomy	19.09	4.87	19.81	4.79	333.00	1.37	0.17
Competence	20.28	4.51	20.63	3.93	299.85	0.74	0.46
Relatedness	22.34	3.91	22.26	3.96	333.00	-0.21	0.84
ALQ							
Transparency	2.35	0.93	2.44	1.04	333.00	0.84	0.40
Moral/Ethical	2.56	0.95	2.63	1.03	333.00	0.67	0.51
Balanced Process	2.09	0.98	2.21	1.11	333.00	0.99	0.32
Self-Awareness	1.97	1.13	2.13	1.23	333.00	1.26	0.21

Note. $n = 335$. $*p < .05$. EE = Emotional Exhaustion, DP = Depersonalization, PA = Personal Accomplishment, BPNS-W = Basic Psychological Need Satisfaction at Work, ALQ = Authentic Leadership Questionnaire.

First Cycle Coding. A key strategy for analyzing qualitative data is through classifying or coding. Table 28 indicates the instruments or model used in the present research and the codes used to analyze the qualitative comments. Other themes which emerged were also noted and used. For this reason, the code *Parents* was included in this first screening of the qualitative comments.

Table 28

Codes for Participant Comments Based on Instruments or Models Used in Present Study

Instrument or model	Code
Basic Psychological Need Satisfaction Scale	Autonomy Competence Relatedness
Authentic Leadership Questionnaire	Leadership
Maslach Burnout Inventory	Emotional exhaustion Depersonalization Personal accomplishment
Job Demands – Resources Model	Job demands Job resources
Other	Parents

Table 29 offers an example from the participant comments for each code used in the initial screening for a clearer understanding of the content of the qualitative data.

Table 29

Number of Participants for Each Code from Initial Screening

Code	Example from participant comments	# of comments	%
Autonomy	“I am upgrading soon to leave the profession for more control over my career, respect from the public and more control over how I work with clients/public.”	8	3
Competence	“I constantly felt like I didn’t have enough time to get everything done, and like I wasn’t good enough, despite having evidence every year that I was in fact a strong teacher.”	24	9
Relatedness	“I love what I do and the people that I work with! They are my second family.”	22	8
Leadership	“Senior admin and trustees need to be aware of the triggers. They need to stop making decisions that affect teachers when they have never stepped foot inside a classroom, or its been years.”	40	14
Emotional exhaustion	“The amount of mental health issues in students and parents that I deal with daily is exhausting.”	47	17
Depersonalization	“I do not love the kids. I care for their wellbeing at school, but I just have nothing left in me to give these days.”	2	1
Personal accomplishment	“Even though I know intellectually what I do has value, I often don’t feel it. It rarely gives that boost of energy anymore.”	7	2
Job demands	“Kids are entering our classrooms every day with more behaviour issues, a sense of entitlement and learning difficulties.”	85	30
Job Resources	“We need more support from our government, parent group and school boards.”	32	11
Parents	“Parents expectations of teachers have increased which has heightened burn out.”	15	5
Total		282	100

Table 29 notes the number of comments for each of the codes in the initial screening. This first analysis of the participant comments highlights *job demands* as being the top theme of the qualitative data. A total of 85 comments were coded under this theme. The second most written about theme was *emotional exhaustion* with a total of 47 comments from participants. This theme is a dimension from the Maslach Burnout Inventory and had substantially more comments compared to the other two dimensions which are depersonalization and personal accomplishment. The next highest themes were *leadership*, *job resources*, and *competence* with 40, 32, and 24 different comments respectively.

It is important to note that with 151 written responses, depending on the length of the comment, a single response may have more than one theme emerge. For this reason, the number of comments noted in Table 29 is greater than the number of participant responses.

Second Cycle Coding. Further analysis on the participant comments was necessary for a more in-depth understanding of the main theme. The code labelled *job demands* came up as the most written about theme. In order to understand more specifically what *job demands* involves, a second cycle of coding was done and the technique known as *sub-coding* was used. Every comment which fell under *job demands* was coded and sorted into new themes. Table 30 indicates the codes for these new themes and highlights an example of each from the participant comments.

It is important to note the code *inclusion* is a category which represented several related terms. In the education systems in Canada, inclusion is the term used to describe the action of including all students into the regular classroom when possible

and whatever their needs. In Alberta, inclusion was mandated by the government in 2003. For this reason, when participants wrote about the diversity of their students, the complexity of the class, differentiation, increased emotional and academic needs of students, or students with mental health issues, these comments were placed under the *inclusion* code. It should also be noted that students with trauma were added to the *inclusion* code as students with trauma are also individuals with special needs and add similar demands to the classroom teacher.

The code *paperwork* also has several related terms it included. In Canada, due to inclusion as well as the pursuit of accountability, more paperwork is required of the classroom teacher. Therefore, the code *paperwork* included emails, blog posts, on-line assessments, report cards, Individualized Program Plans (IPPs), data collection, standardized testing, digital platforms (like Seesaw), marking, planning, or professional growth plans (PGPs).

The code *other* was used for any comments which stood alone. For example, there was only one participant who commented on the work involved when dealing with educational assistants. This comment went into *other*, as did a comment about teachers having to design lessons instead of using a textbook. This code held any comment that did not fit under any other code.

Table 30

Number of Participants for Each Job Demands Code

Codes	Example from participant comments	# of comments	%
Workload	“Quantity of work with a lack of control/agency is my largest frustration.”	14	9
Inclusion	“Dealing with behaviours, bureaucracy, special needs, etc., is really at the core of teacher burnout.”	52	35
Extra-curricular	“My experiences with burnout have always started with feeling overwhelmed by non-instructional tasks, i.e. being asked to do more when I’m already struggling to meet expectations for extra-curriculars and paperwork.”	3	2
Parent expectations	“Dealing with parents who are unsupportive or have unrealistic expectations is contributing to burnout.”	9	6
Leader expectations	“Being <i>volun-told</i> to be in 2 pilot projects in the same year is a huge learning curve and cost more of my personal time than I was already putting in.”	3	2
Class sizes	“Class sizes and diverse needs have stretched teacher abilities, time and emotional wellness thin.”	14	9
Daily interactions	“It’s not so much working with people as how many people at once...all day, every day.”	3	2
Paperwork	“It’s not always the students, it’s the paperwork. I have no free time and feel like not enough is left for my family.”	14	9
New initiatives	“I feel initiatives that come from above (i.e., the ministry of education or the school board) are sometimes make work projects for us.”	6	4
Playing different roles (parent, nurse, etc.)	“The demands of this job are overwhelming. We are no longer just teachers; we are counselors, nurses, parents.”	8	5
Other	“As a special education teacher I strongly feel most of the stress and frustration in my job comes from dealing with my educational assistants rather than my students.”	23	15
Total		150	100

Table 30 notes the number of comments for each of the codes in the screening of the *job demands* comments. This analysis highlighted *inclusion* as being the top theme of the job demands participant comments. A total of 48 comments were coded under this theme. The next highest code was *other* with a total of 23 comments from participants. This theme can be set aside as its function was to catch any comments which did not fit the other codes. Therefore, the second-highest themes were *workload*, *class sizes*, and *paperwork* which had 14 comments each.

It is important to note that with 85 job demands participant comments, depending on the length of the comment, a single response may have more than one theme emerge. For this reason, the number of comments noted in Table 30 is greater than the number of participant responses.

Summary

This chapter reported the demographics of participants and the descriptive statistics for the quantitative data collected. Also included in this chapter were the results from correlational analysis which supported all three hypotheses: a) There is a positive relationship between authentic leadership and psychological well-being at work, b) There is a negative relationship between teachers' psychological well-being at work and teacher burnout, c) There is a negative relationship between teacher burnout and authentic leadership.

Two subgroups were created and examined more closely to understand more thoroughly the relationship occurring between the many variables in the study. The two subgroups: *those who were exhausted* and *those who were not*, were analyzed

using an independent samples *t*-test and correlational coefficients. The results from this analysis indicated a significant difference between these two subgroups in all four dimensions of authentic leadership as well as the three basic psychological needs of self-determination theory. Finally, an analysis of the final qualitative question in the survey was given using various methods of coding. This analysis revealed *job demands* as the most prevalent theme from the participant comments. The second cycle coding revealed that *inclusion* was the most common job demand among those who wrote about job demands.

The results and limitations are reported in the next chapter and will be discussed in connection with past literature. Future recommendations for current practice in the field of education as well as future study in the area of teacher burnout will also be outlined.

Chapter 5: Discussion

The purpose of this quantitative study was to develop a conceptual framework which outlines a comprehensive structure for teacher burnout and its antithesis. The present study looks at the relationship between teacher burnout, psychological needs at work, and teachers' perception of authentic leadership, to build this framework of understanding. The study was guided by the following hypotheses:

1. There is a positive relationship between authentic leadership and psychological well-being at work (i.e., Leroy et al. 2015).
2. There is a negative relationship between teachers' psychological well-being at work and burnout (i.e., Fernet et al., 2013, Skaalvik & Skaalvik, 2009; Vîrgă et al., 2019; Zhu et al., 2018).
3. There is a negative relationship between teacher burnout and authentic leadership (no research to date).

These hypotheses are the foundation in the development of a new framework on teacher burnout which helps create a clearer understanding of the root cause of burnout and point to a coherent solution to this global issue. This study predicted if all three hypotheses are evidenced, a greater understanding of how to attain teacher well-being will be the result. Figure 5 displays the hypotheses and encapsulates some key factors in the burnout process.

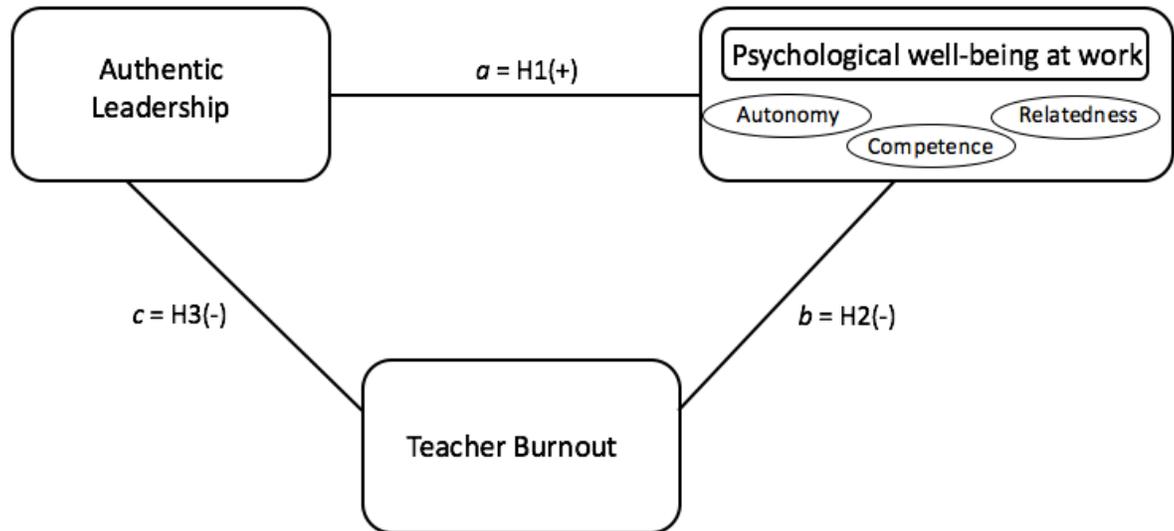


Figure 5. Teacher burnout conceptual framework. a = outcome of correlation between authentic leadership and psychological well-being at work, b = outcome of correlation between psychological well-being at work and teacher burnout, c = outcome of correlation between teacher burnout and authentic leadership, $H1$ = hypothesis 1, $H2$ = hypothesis 2, $H3$ = hypothesis 3.

Three different instruments were used to create a research survey and collect data for this correlational study. The Maslach Burnout Inventory (MBI) was used to measure the three dimensions of burnout: *emotional exhaustion*, *depersonalization*, and *personal accomplishment*. The Basic Psychological Needs Satisfaction at Work (BPNS-W) scale was used to measure the three basic psychological needs: *autonomy*, *competence*, and *relatedness*. Finally, the Authentic Leadership Questionnaire (ALQ) was used to measure participants' perceptions of the four dimensions of authentic leadership: *transparency*, *moral/ethical*, *balanced processing*, and *self-awareness*. The survey ended with an optional question, "Is there anything you would like to add about teacher burnout and your work experience?" This question offered participants an

opportunity to comment further about their experiences and provided the study with qualitative data.

Past researchers have developed critical theories and models to help grow a clearer understanding of the burnout syndrome (Demerouti et al., 2001; Maslach & Jackson, 1981). Chapter 1 provided some background on the term *burnout*, from its origin in the 1970s to the development of the MBI in the 1980s. A table was created to show some of the research on burnout over the past three decades and highlight the focus of these studies. The basis of much of the research was on one or more component of self-determination theory (SDT): *autonomy*, *competence*, and *relatedness*, and its relationship with burnout. For this reason, SDT was selected as the framework of the current study.

Chapter 1 also provided details of the research gap. There is no research to date which includes the dimensions of authentic leadership, basic psychological needs at work, and teacher burnout for a full understanding of the causes and conditions associated with burnout. The current study uses these key dimensions and attempts to create a framework where an evident solution may become clear. Although past studies were conducted to evidence the first two hypotheses in this study, no research to date had been conducted for the third hypothesis. The first chapter also highlighted an important connection between the research on teacher well-being and the research on burnout. Past studies on well-being defined the term *well-being* using dimensions from Maslach's burnout syndrome (Klusmann et al., 2008; van Horn et al., 2004). This pointed to a discernable connection between well-being and burnout.

The literature review highlighted the substantial research connecting teacher autonomy, competence, relatedness, and leadership styles with symptoms of burnout. These studies confirmed the importance of autonomy with basic psychological need satisfaction and well-being (Brissie et al., 1988; Gagné, 2003). There was also considerable research on teacher competence. Several studies looked specifically at teacher self-concept (Friedman & Farber, 1992; Villa & Calvete, 2001), teacher efficacy (Caprara et al., 2003; Pas et al. 2012; Skaalvik & Skaalvik, 2009), and how these two elements interacted to affect overall competency (Zhu et al. 2018). In the area of relatedness and burnout, researchers found that principal support was a significant factor in the burnout equation (Brissie et al., 1988; Sarros & Sarros, 1992). Researchers also used attachment theory to help explain the relationship between social connections and burnout (Leiter, Day, & Price, 2015; Vîrgă et al., 2019).

Important research also linked employee well-being and authentic leadership (Ilies et al., 2005; Rahimnia & Sharifirad, 2015). Researchers have studied authentic leadership and how it relates to psychological well-being (Nelson et al., 2014). One particular study found that authentic leaders strive for health and facilitate health in their employees (Macik-Frey, Quick, & Cooper, 2009). It is also evidenced that authentic leadership, authentic followership, and their interaction are positively related to follower work performance (Leroy et al., 2015).

Overall, very valuable research has been conducted in the area of burnout, yet teacher burnout and stress continue to be a concern around the world (Borg et al., 1991; Liu & Onwuegbuzie, 2012). Burnout has negative consequences for teachers, students, and school districts (Pas et al., 2012; Skaalvik & Skaalvik, 2017; Villa &

Calvete, 2001; Yong & Yue, 2007) which creates an urgency for school systems to find a solution to this problem. The research discussed below begins to unpack this issue.

Discussion of the Results

The discussion of the results is organized by the findings of the current study. Each finding will be supported by either quantitative or qualitative evidence, or both, as well as past studies on burnout and teacher well-being.

A positive relationship exists between authentic leadership and basic psychological needs. A positive relationship occurred between the dimensions of authentic leadership and the basic psychological needs. The coefficients were statistically significant and ranged from 0.22 to 0.55, reflecting R^2 values of 5% to 30%. When compared to other studies, these results are similar. Leroy and colleagues (2015) conducted a study which looked at the relationship between authentic leadership, the fulfillment of basic needs of followers, and authentic followership work performance. This research team reported $r = 0.48$ and an R^2 value of 23% which encompassed all four dimensions of authentic leadership and the basic psychological needs: *autonomy*, *competence*, and *relatedness*. Leroy and his team (2015) used an instrument which reported the basic psychological needs as one total value while the current study used an instrument which maintained each basic need as an individual measure. This would account for the difference on how the results were reported but also indicates the results as similar with 23% being close to the average of the range found in the current study.

A negative relationship exists between basic psychological needs and teacher burnout. A negative relationship occurred between the basic psychological needs and the dimensions of burnout. The coefficients were statistically significant and ranged from -0.21 to -0.42, reflecting R^2 values of 4% to 18%. When compared to other studies, once again these results are similar. Fernet and colleagues (2013) conducted a study which looked at the mediating role of basic psychological needs in the relationship between teacher burnout and work environments. This research team reported results of R^2 values ranging from 3% to 21% which encompassed two dimensions of burnout and the basic psychological needs: *autonomy*, *competence*, and *relatedness*. This study used a separate instrument for measuring each basic psychological need while the current study used a single instrument to measure all three. Despite both studies using different instruments the range of the results was comparable.

A negative relationship exists between authentic leadership and teacher burnout. A negative relationship occurred between the four dimensions of authentic leadership and the burnout dimensions. The coefficients were statistically significant and ranged from -0.17 to -0.24, reflecting R^2 values of 3% to 6%. This relationship is rather weak. Since there is no prior research to compare the results, this finding prompted a closer look at the quantitative data to understand more profoundly why moderate relationships would exist between authentic leadership and psychological needs, and psychological needs and teacher burnout, but a weak relationship would exist between teacher burnout and authentic leadership. Participants were sorted according to their burnout profiles and grouped into two subgroups: *those who were*

exhausted and *those who were not*. Further analyses were conducted to view the quantitative data from another perspective.

Authentic leadership dimensions and basic psychological needs are key factors in the burnout equation. The burnout profiles created an interesting view of the participants of the study. Although burnout is a process which can manifest in different ways (Maslach & Leiter, 1997), the profiles highlighted an important fact; out of 335 participants, 120 (36%) were identified as exhausted. This included 33 (10%) who were classified as burned out and 87 (26%) who were classified as overextended. This allowed the creation of a subgroup labelled *those who were exhausted*. It is important to note, the 26% who were identified as overextended, were experiencing exhaustion beyond the critical boundary of 4.45 for emotional exhaustion on the MBI, but were not experiencing any other dimension beyond the critical boundary. These individuals were not burned out, but were likely on track for burnout. All other participants were labelled *those who were not exhausted*. This included 134 (40%) participants who were identified as engaged, 74 (22%) who were identified as ineffective, and 7 (2%) who were identified as disengaged.

These two subgroups were compared using an independent samples *t*-test to understand more thoroughly their differences. An obvious difference was their level of exhaustion, so it was not surprising to see emotional exhaustion as statistically significant, $t(324.81) = -29.71, p < .01$. An interesting revelation in this analysis was that *every* quantitative variable was statistically different between these two subgroups. For example, *those who were not exhausted* had significantly greater scores in the area of basic psychological needs which leads us to believe this group had greater

fulfillment of their basic needs compared to *those who were exhausted*. Competence stands out with $t(333) = 7.89, p < .01$ which has an effect size of 0.40 and a Cohen's d of 0.87. Although authentic leadership dimensions indicate a weaker effect size, for example, out of the AL dimensions, self-awareness had the greatest effect size at 0.19 and a Cohen's d of 0.39; these results still suggest that *those who were not exhausted* perceived their leaders to be more authentic. Since each quantitative variable is significantly different between *those who were exhausted* and *those who were not*, this suggests that basic psychological needs and authentic leadership are very likely important pieces of the burnout equation.

The relationship between authentic leadership and teacher burnout is mediated by the basic psychological needs of autonomy and competence.

Correlational analysis was run for the subgroup labelled *those who were exhausted*. The results were similar to the correlational coefficients found for the whole group; however, there were some important differences. For example, for *those who were exhausted*, the relationship between autonomy and the authentic leadership dimension *balanced processing* was 0.52, compared to 0.50 when the whole group was accounted for. An increase in the coefficient between autonomy and *self-awareness* is also noted for this subgroup. The Pearson r between these two variables is 0.57 compared to only 0.53 when the whole group is accounted for. These small increases indicate stronger relationships between autonomy and two dimensions of AL for *those who were exhausted*, suggesting that those who are becoming overextended in their work are experiencing greater autonomy and are perceiving their leaders to be more self-aware and able to make decisions in a balanced way. These increases in the coefficients

suggest authentic leadership *does* play a role in the burnout equation but only through the basic psychological need of autonomy.

Correlational analysis was run for the subgroup labelled *those who were not exhausted*. Again, the results were similar to the coefficients found for the whole group, but some important differences are noted. For example, for *those who were not exhausted*, the relationship between competence and the authentic leadership dimension *transparency* was 0.44, compared to 0.43 when the whole group was accounted for. An increase in the coefficient between competence and *moral/ethical* is also noted for this subgroup. The Pearson *r* between these two variables is 0.45 compared to only 0.42 when the whole group is accounted for. These small increases indicate stronger relationships between competence and two dimensions of AL for *those who were not exhausted*, suggesting that those who are not overextended in their work are experiencing greater competence and are perceiving their leaders to be more transparent and ethical. These increases in the coefficients suggest authentic leadership *does* play a role in the burnout equation but only through the basic psychological need of competence.

Those who answered the final question were more exhausted than those who did not answer the question. Out of 335 participants, 151 (45%) responded to the open-ended question at the end of the survey. The responses to this final question added rich details to the quantitative data. First of all, it is important to note each burnout profile was represented in the qualitative data. Out of 151 responses, 5 (3%) were submitted by participants who were identified as disengaged, 17 (11%) were submitted by those identified as burned out, 29 (19%) were from individuals identified

as ineffective, 40 (26%) were submitted by those identified as overextended, and 60 (40%) were from those identified as engaged. Also interesting to note is the results of the independent *t*-test run between *those who answered the final question* and *those who did not*. Only one variable was found to be significantly different between these two groups. It was the variable emotional exhaustion, which is the main dimension of burnout. The score for emotional exhaustion is an average of items using a Likert scale from 0 to 6. Those who answered the final question had a mean of 4.00 whereas those who did not answer the question had a mean of 3.67. This underscores the importance of listening to the voices of those who answered the final question. At the time of the survey, they were experiencing greater emotional exhaustion and wrote details about their specific circumstances.

Job demands are burning out teachers, specifically in the area of inclusion.

The first cycle of coding helped to sort through the responses and highlight main themes. Since prior teacher burnout research has included factors like the basic psychological needs, leadership, and job demands and resources, codes were created from these known variables. The coding revealed three top themes from the written responses: job demands was mentioned 84 times (30%), emotional exhaustion was mentioned 47 times (17%), and leadership, 40 times (14%). These top themes reveal how *those who answered the final question* perceive teacher burnout and their work experience. These respondents are pointing to the demands of the job as the leading cause of their exhaustion. They are also pointing toward their leaders as a source of teacher burnout.

A second cycle of coding was used to understand the specific details for the *job demands* theme. Although several types of job demands, like parent expectations, class sizes, and paperwork were mentioned by participants, the most written about demand for teachers was *inclusion*.

Past research on teacher burnout supports the findings from the qualitative data collected for the current study. A recent review paper by Gray, Wilcox, and Nordstokke (2017) looked at teacher mental health, school climate, inclusive education, and student learning. These researchers acknowledged the trend in education for inclusion and how this model has contributed to the extra stress and burnout of teachers. Gray and colleagues concluded that “teacher well-being, school climate, and inclusive education all impact student learning” (p. 207) and recommended that consideration be given to teacher wellness and school environments, especially those contexts where the inclusive education model exists.

A study conducted by Malinen and Savolainen (2016) also suggests inclusion is associated with teacher burnout. This team conducted a longitudinal study which investigated how teachers’ perception of school climate affected their feelings of job satisfaction and burnout. Using a structural equation model they examined how self-efficacy and collective efficacy in managing students’ difficult behavior mediate the effect of perceived school climate on job satisfaction and burnout. The results underscored the importance of supporting teachers’ self-efficacy in the area of student behavior challenges, which is directly related to burnout and job satisfaction. This study also supports the next finding which is the importance of the basic need of competence in the burnout equation. Although the study by Malinen and Savolainen

(2016) looks specifically at the role of teachers' self-efficacy, as contended earlier, there is a thread of commonality between self-efficacy and a sense of competence.

Competence is a key component in the framework for burnout. Earlier studies on burnout confirm the findings of the current study that the basic psychological need of competence is a key player in the burnout process. Friedman and Farber (1992) conducted a study on professional self-concept as a predictor to teacher burnout. They suggested offering teachers job resources like reduced class sizes, more teacher autonomy, and additional supports for students with special needs, as this would reduce teachers' vulnerability to burnout. This research team suggested these resources would assist teachers in being more successful and feeling satisfied with their work and would therefore stave off burnout. The term *competence* may not have been used in this particular study as it was conducted in the early 1990s and the term competence had not yet been defined with reference to basic needs and self-concept, yet what the research team recommended in their study would indeed build teachers' sense of *competence*. Competence is defined by the ability to do something successfully (Oxford, 2019, para. 1). The supports suggested by Friedman and Farber (1992) were to assist teachers in their ability to successfully reach their students and would likely lead to a sense of competence. This study aligns with the qualitative coding of the current study as the top themes for the written responses were job demands (30%), emotional exhaustion (17%), and leadership (14%), followed by *job resources* (11%) and *competence* (9%). Evidence of competence as a key factor in the burnout equation was also found in the quantitative results of the current study. The independent samples *t*-test conducted for *those who were exhausted* and *those who*

were not revealed $t(333) = 7.89, p < .01$ which had an effect size of 0.40 and a Cohen's d of 0.87. Since competence as a key burnout factor is supported in past literature, in the qualitative findings of the current study, as well as the quantitative results of the current study, triangulation for this component was achieved.

Leadership is a key component in the framework for burnout. Another area of triangulation for the current study is in the evidence found on leadership as a key component of burnout. The influence of leadership on burnout is supported in past literature by researchers like Ryan and Deci (2000a) who suggested that managers can benefit from understanding how social environments can be responsive to basic needs so they may provide conditions for growth and well-being. Another supporting study was done by Sarros and Sarros (1992) who looked for the relationship between sources and types of social support and teacher burnout. The study found of all social supports, the support from the principal was the first statistically significant predictor for each of the burnout dimensions. Sarros and Sarros (1992) concluded that “the importance of supervisor and principal support cannot be underestimated as a critical resource for alleviating teacher burnout” (p. 55).

A study conducted by Brissie, Hoover-Dempsey, and Bassler (1988) supports the influence of leadership *and* the basic psychological needs on teacher burnout. The findings from their study suggested that teaching efficacy, as well as organizational rigidity and support from principal and peers, were most strongly connected with teacher burnout. In terms of teacher support, the results indicated that all sources of environmental support were important, this included the principal, colleagues, friends and family, and students' parents. However, within this set, principal support

accounted for the largest portion of the variance. This finding echoes the results of the current study, that the principal plays a critical role in enhancing positive working conditions in the school.

The critical role of leaders has been recently viewed through the job demands and resources lens. Schaufeli (2015) conducted a study with 1,213 Dutch workers using a structural equation model. The aim of the study was to connect leadership with the JD-R model. The findings were that leadership was not directly related to burnout and engagement, but rather it had an indirect influence on job demands. Schaufeli (2015) concluded “it is important to study the impact of leadership in its own right because leaders are supposed to balance the job demands and job resources of their followers in such a way that they remain healthy, motivated, and productive. They do so by managing the allocation and impact of job demands and job resources on their followers” (p. 447).

These studies all underscore leadership as an important variable in the burnout equation and align with the quantitative findings for the current study, as well as the voices of the qualitative data. Triangulation was attained in the current research in the area of leadership.

Limitations

A number of limitations should be noted regarding this study. The first limitation is the number of participants in the study. The target population for the study was Alberta teachers. There are approximately 40,000 educators throughout the province. According to Krejcie and Morgan (1970), the ideal number of participants for a population of this size is 380. Although the number of respondents to the survey

was 459 when the survey closed, the sample was whittled down to 335 once the non-completers and those who did not meet the criteria were eliminated. Of those 335 participants, 299 (89%) were Alberta teachers. Another limitation is the possibility for sampling error. This sampling issue occurs when, despite a well-selected and large sample, the sample differs significantly from the target population (Mills & Gay, 2016). The nonrandom sampling strategy used in the study opened the potential for the sample to differ from the target geographical numbers shown in Table 6. Due to the use of the researcher's immediate contacts through the blog, Facebook, and Twitter, the sample had a larger number of participant teachers from the North Central Teachers' Convention and the Greater Edmonton population.

It is also important to note participants self-selected themselves through social media which can influence the type of participant who engages in the survey. Perhaps those teachers who have experienced burnout or believe burnout to be a prevalent problem in the field of education will decide to participate in the research study. Random sampling would be the preferred method of selecting participants, however, the email addresses of all the teachers in Alberta were not accessible for the current study.

Implication for Research

The results of the current study offer important information about teacher burnout and how to counteract the process; however, the results also prompt further investigation of several factors discussed. For example, in the area of leadership, specific research on how leaders may or may not promote a sense of competence for their teachers on staff is an important new direction of study. Perhaps a qualitative

study which gathers the voices of teachers and leaders on what actions help build feelings of competence for staff members. Do leaders rely on teacher training, professional learning sessions, or easy access to a learning coach, as ways to assist teachers in feeling prepared for the rigorous demands of teaching? Are there other ways leaders help teachers feel succeed and feel competent? What do teachers believe help them feel efficacious in their work? What about the other basic psychological needs? For example, in what ways do leaders ensure teachers have autonomy? How do leaders promote connection to and among all their staff members? New research is also needed on the different types of leadership. For example, what other root leadership styles promote basic psychological needs for teachers? And in what specific ways do authentic leaders promote a sense of competence for their teachers?

In general, qualitative research is needed in the area of teacher burnout since the majority of studies on burnout are quantitative. Other researchers have made a similar call. Skakon and colleagues (2010) conducted a study on the influence of leaders on follower stress and well-being and this team explicitly noted that future studies should include qualitative data. Qualitative data will allow the teacher and leader voices of today to assist with a more thorough understanding of the present lived experiences of staff members in school settings. These voices will direct researchers toward current issues which are stressing out teachers and perhaps leading to burnout. For example, one factor which is becoming more prevalent in classrooms is student violence. Qualitative studies can help researchers zero in on new issues so there is only a short lag time between new teacher stresses and possible solutions.

The current study places a spotlight on the mediating role of the basic psychological needs in the relationship between authentic leadership and teacher burnout. Studies using a structural equation model (SEM) are needed in order to understand more thoroughly this mediating role.

Another area of study needed is perhaps how leaders manage job demands and resources in the school setting and how that impacts the basic psychological needs of teachers. Schaufeli (2017) posited that abundant job resources and *not* low job demands contributes to work engagement. Is work engagement related to a sense of competence? Is there a connection between engagement and teacher burnout? There are still more factors impacting burnout to explore.

From looking at the R^2 values in the new model in the current study, it is understood the model accounts for approximately 25% of the factors involved in the burnout process. What factors make up the other 75%? Are those factors personal demands found outside the school environment? What other factors within the school setting are still needing research? How can these other factors be counteracted? Is there an opposing force against these other factors?

The burnout profiles presented in the current study speaks to the fluidity of the burnout process. The study captured a moment in time when 335 teachers participated in a survey on burnout. Although 134 (40%) were engaged, 87 (26%) were overextended, 74 (22%) were ineffective, 33 (10%) were burned out, and 7 (2%) were disengaged, the months following the survey may have changed the course for any given respondent. Perhaps a future study is needed to track teachers' burnout profiles over the course of a couple years. Do the profiles change? Can some teachers be

overextended (in other words on track for burnout), then get off track? What are the factors influencing these profile shifts? More questions regarding the burnout process still need to be answered.

Implications for Practice

The results of the current study join the body of evidence which suggests that leadership is a key element in the burnout equation (Brissie et al., 1988; Sarros & Sarros, 1992), along with the basic psychological needs of autonomy, competence, and relatedness (Brissie et al., 1988; Friedman & Farber, 1992; Fernet et al., 2014), and the job demands and resources of the work environment (Schaufeli, 2015). Since teachers' motivation and work performance hinges on their well-being (Gray et al., 2017), this research is valuable for teachers as it can empower them to advocate for themselves in the area of health and wellness. Are teachers' basic psychological needs being met in their current work environment? If these needs are not being met, perhaps a change in their teaching assignment is needed? Or a change of schools? Or careers? Teachers can also use this research to understand how they might influence a healthy work environment for their students and the education assistants (EAs) they oversee. Theories like SDT are theories because they can be applied in different contexts. Self-determination theory can be a framework for the development of a healthy learning environment for students in a classroom. How can teachers help their students feel autonomous in their school work? How can teachers assist students in feeling competent with new learnings? What are special ways teachers build strong bonds with their students? The same questions can apply to the work environment of education assistants who are overseen by teachers. How can teachers assist their EAs

in feeling more autonomous, competent, and connected while working together each day at school?

This research might help leaders in the school be more aware of their influence over job demands and resources of their staff, as well as how the balance between the two affects their teachers' need for autonomy, competence, and relatedness. Are teachers invited to be a part of committees which have decision-making power? How do leaders assist their staff in feeling competent in their work with students? Are leaders setting up meaningful training and professional learning which will help teachers improve their skills or are professional development days simply placing more demands on their already tired teachers?

This research can also help school boards with important decisions about who to hire as leaders in the division. During the interview process, school division personnel can look for administrator candidates who demonstrate the traits of authentic leadership and who understand that teacher well-being is vital to the learning of students in a school. Perhaps training or professional learning sessions can be organized for leaders to learn more about what authentic leadership looks like and the benefits of leading in this style.

This research also offers critical direction for government policy in education. First and foremost, funding must be in place to support teachers in their work with special needs students. School systems with an inclusive education model must offer extra supports and resources for teachers in order to balance their job demands with resources. Since this research underscores the importance of teachers' feelings of competence, the government arm in education must consider the mass amount of

initiatives educators are asked to take on year after year. With so much to undertake each year, will these initiatives leave teachers feeling less competent? Where is the balance in helping teachers improve teaching and learning but not overwhelming them or overworking them?

Conclusion

The current study created a new comprehensive framework for teacher burnout and its antithesis using the dimensions of authentic leadership, the dimensions of burnout, and the basic psychological needs. The three hypotheses for the study were evidenced and highlight a clearer understanding of how teacher well-being can be attained in the school setting. While the relationship between authentic leadership and basic psychological needs was found to be positively moderate, and the relationship between the basic psychological needs and burnout was found to be negatively moderate, a rather weak negative relationship was found between authentic leadership and teacher burnout. An independent samples *t*-test and correlational analysis of the two subgroups, *those who were exhausted* and *those who were not*, revealed that all quantitative variables in the analysis were significantly different between these subgroups, which suggests that authentic leadership *is* a key player in the burnout equation and the weak relationship between authentic leadership and teacher burnout is perhaps because this relationship is mediated through the psychological needs. Figure 6 shows how the results of the study have altered the framework to account for these new findings.

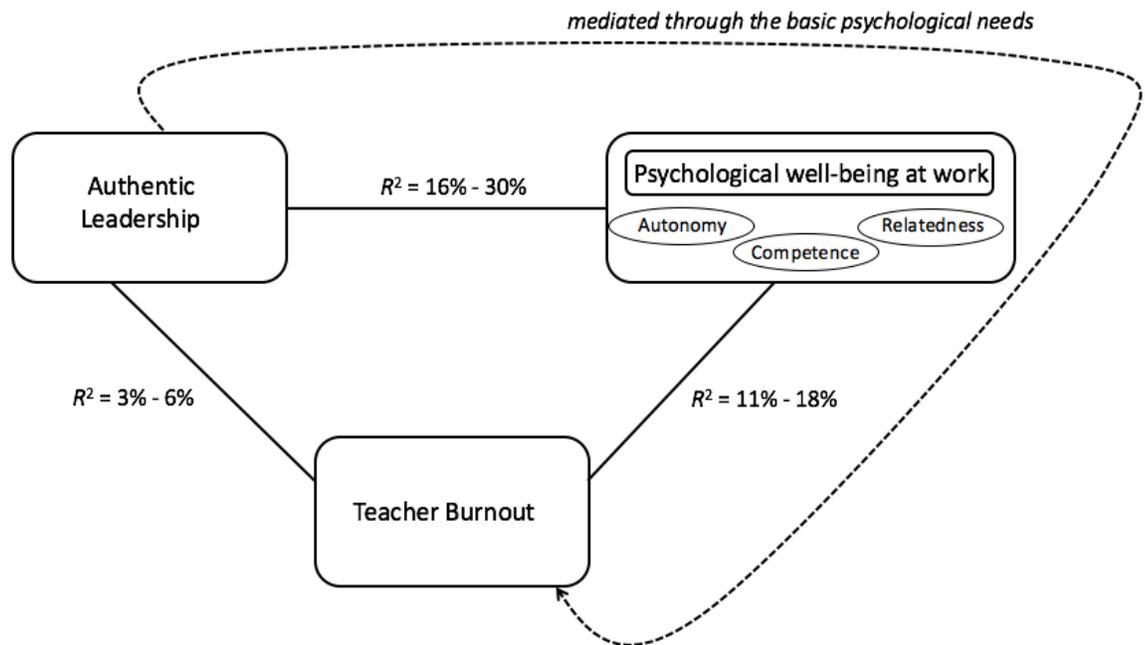


Figure 6. Updated teacher burnout conceptual framework.

This study predicted if all three hypotheses are evidenced, a greater understanding of how to attain teacher well-being will be the result. All three hypotheses were accepted, leaving the proposed conceptual framework as a map highlighting key components in the burnout equation. The results indicated that authentic leadership *is* an opposing force against teacher burnout. Since authentic leaders and burnout have a negative relationship through the mediating role of the basic psychological needs, schools have a better understanding on how to support well-being for their staff members. When burnout is staved off and teacher well-being is achieved, greater outcomes for students, teachers, and school divisions are the result. Ryan and Deci (2001) posited the satisfaction of the three basic psychological needs: autonomy, competence, and relatedness reflect the concept of eudaimonic happiness and fosters well-being. Perhaps through the mediation of the basic psychological

needs, authentic leaders will one day pave the way so teachers can experience wellness at work and happiness in their life.

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Appendix A: Blog Article

What We Lose When Teachers Are Burned-Out

I bet you remember having a teacher who didn't seem to care...about their students or the lesson they were giving. You may have chalked it up to "not everyone is cut out for teaching." You probably breathed a sigh of relief knowing that next year or next semester you might get a more inspiring teacher. Did it ever occur to you this particular teacher may have been inspiring and caring at some point in their career? Maybe this teacher is simply burned out?

There has been substantial research done on burnout over the past 30 years. There has been extensive research to demonstrate that burnout is more commonly experienced by workers who interact face-to-face with people all day long, such as nurses, social workers, teachers, police, and even poverty lawyers.

There has been a misconception over the years that burnout occurs to individuals who are weak, but research says this is simply not true (Maslach & Leiter, 1997). Burnout is more about the environmental factors and less about the inadequacies of an individual (Maslach & Leiter, 1997). Burnout can lead to devastating consequences for the individual as well as the organization (Yong & Yue, 2007). These consequences directly affect teacher-student relations and prevents students from making progress (Farber, 1991).

Teacher burnout is taxing on the school system causing an increase in absenteeism and a decrease in teacher retention. Teacher attrition is costly in terms of both financial and human resources. The average cost to rehire and train a new teacher is approximately \$17,862 (Ryan et al., 2017). However, the heftiest price paid for teacher burnout is the cost to our students in academic progress and in the erosion of teacher-student rapport. We have so much to lose without a solution to teacher burnout and so much to gain if we can find the missing piece to this puzzle!

Here's how you can help. **If you are a Canadian teacher, please take 10 minutes to fill out this research survey on teacher burnout.** This study is looking at possible relationships among some key factors in the burnout equation. Current data from the diverse experiences of as *many* Canadian teachers as possible is required; it does not matter if you believe you have experienced burnout at some time in your career or not. **Additionally, if you know a Canadian teacher, please forward this opportunity to them.**

Teacher Burnout Survey:

https://uportland.qualtrics.com/jfe/form/SV_aWu239oYai7Fyst

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Appendix B: Posts on Facebook and Twitter

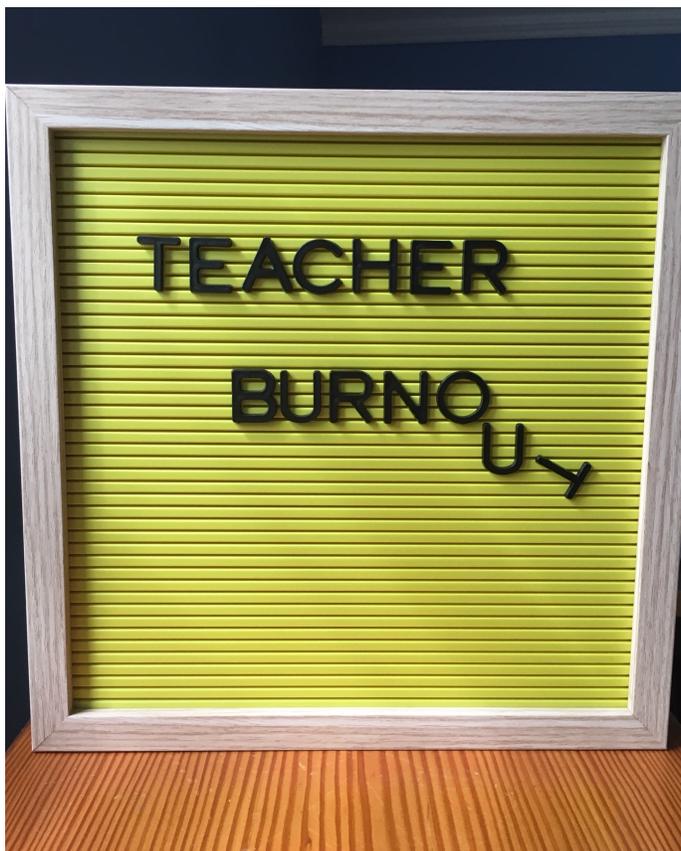
Posting on October 6:

Yesterday was World Teacher Day and today I invite you to join me in supporting the health and wellness of our teachers. When we take care of teachers, we take care of students! Please read this short blog and participate in the research survey at the end. I appreciate you sharing this with other teachers!

Posting on October 9:

If you haven't had a chance to participate in this research survey and/or share it with others, please consider doing so. There are currently 190 completed surveys but this study is in need of over 400 participants. I so appreciate your help with this important topic!

Appendix C: Article & Posting Visual



Appendix D: Email to Teacher Contacts

Dear Friends,

As some of you know I am currently working on a research study to better understand the key factors in teacher burnout.

I invite you to join me in supporting the health and wellness of our teachers by reading a short blog and participating in the research survey at the end. There are currently 190 completed surveys but this study is in need of over 400 participants. So I appreciate your participation and ask that you share this email with your friends and colleagues who are teachers.

I truly believe when we take care of teachers, we take care of students!

Thank you for your help!!

Here's the link:

<https://www.dayinthesun.net/home/2019/10/6/what-we-really-lose-from-burnout>

Best,
Carmen Markowski